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MISCELLANEOUS WORKS

Of Mr. *John Greaves*,

Profeſſor of ASTRONOMY

IN THE

Univerſity of *Oxford*:

Many of which are now firſt publiſhed.

VOL. II.

Publiſhed by THOMAS BIRCH, M. A. F.R.S.
and MEMBER of the SOCIETY of ANTIQUARIES,
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MISCELLANEOUS
TRACTS,
LETTERS,
POEMS, &c.

Divers of which were never before printed.

By *JOHN GREAVES*,
Profeſſor of Aſtronomy in the Univerſity of
OXFORD.

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The Manner of

HATCHING CHICKEN at *Cairo*, obſerv'd by Mr. *John Greaves*.

Firſt publiſh'd by Sir George Ent, *formerly Preſident of the College of Phyſicians*, London, *in the* Philoſophical Tranſactions, *Numb.* 137, *for the months of* January *and* February, 167$\frac{1}{8}$.

THEY begin in the midſt of *January* to heat the ovens, ſpending every morning an hundred *kintals* (or an hundred pound weight) of camels, or of buffalos dung, and the like proportion at night, till the midſt of *February*; about which time the ovens are ſo hot, that one cannot well endure to lay his hand upon the walls.

After this, they put the eggs into the ovens to hatch the chicken, which they continue ſucceſſively till the end of *May*.

The eggs are firſt put upon mats in the lower ovens, which are upon the ground; ſeven or eight thouſand eggs in number, and laid only double one upon another.

In the ovens above theſe lower, the fire is made in long hearths, or little channels, having ſome depth to receive the fire, from whence the heat is conveyed into the lower ovens before-mentioned. The eggs, which are directly under theſe hearths, lie treble one upon another; the reſt, as was ſaid, only double.

At night, when they new-make the fires in the hearths above-mentioned, they then remove the eggs that were directly under-moſt (lying three one upon another) in the place of thoſe which lay on the ſides only double: and theſe being now removed, they lay treble under the hearth, becauſe the heat is greater there, than on the ſides where the eggs are only double.

Theſe eggs continue in the lower ovens fourteen days and nights; afterwards they remove them into the upper ovens, which are juſt over the lower. In theſe (there being now no more fire uſed) they turn all the eggs four times every day, *i. e.* in every twenty-four hours.

The twenty-firſt or twenty-ſecond day the chicken are hatch'd, which the firſt

day

day eat not; the ſecond, they are fetch'd away by women, who give them corn, *&c.*

The maſter of the ovens hath a third part of the eggs for his coſt and pains; out of which he is to make ſuch good unto the owners (who have two thirds in chicken for their eggs) if any happen to be ſpoiled or miſcarry.

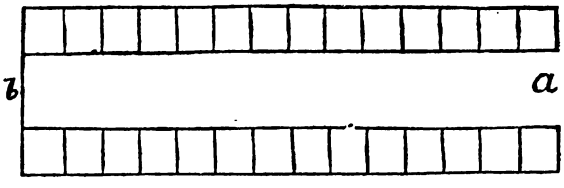
The fire in the upper ovens, when the eggs are placed in the lower, is thus proportioned:

The firſt day the greateſt fire; the ſecond leſs than the firſt; the third leſs; the fourth more than the third; the fifth leſs; the ſixth more than the fifth; the ſeventh leſs; the eighth more; the ninth without fire; the tenth a little fire in the morning; the eleventh they ſhut all the holes with flax, *&c.* making no more fire; for if they ſhould, the eggs would break.

They take care that the eggs be no hotter than the eye of a man, when they are laid upon it, can well endure.

When the chicken are hatch'd, they put them into the lower ovens, which are covered with mats. Under the mats is bran, to dry the chicken; and upon the mats, ſtraw for the chicken to ſtand upon.

The ground-plot of the houſe and ovens is delineated thus:



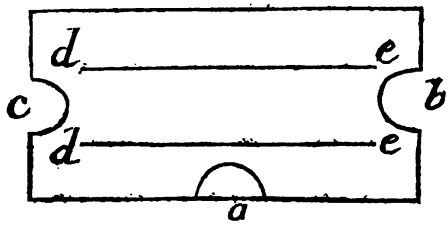
a b a long entrance, on each ſide of which are fourteen ovens (ſome places have more, ſome leſs.) The bottoms and ſides of thoſe ovens which are on the ground, are all made of ſun-dry'd bricks, upon which they put mats, and on the mats the eggs.

The tops of theſe ovens are flat, and covered with ſticks, except two long ſpaces, which are made of ſun-dry'd bricks, and are the hearths above-mentioned, in which the fires are made, to heat the eggs lying under them in the lower ovens.

Above theſe lower ovens are ſo many other, made of ſun-dry'd bricks, and arched at the top: where alſo there are ſome holes which are ſtopp'd with tow, *&c.* or leſt open, as they pleaſe, to govern the heat in the ovens below.

The

The plan of the upper oven is according to the following figure.



a The mouth of the oven, opening upon the long entrance *a b* above-mentioned.

b and *c* entrances into the ovens adjoining.

d e Two hearths three or four inches deep, in which they make the fire, to heat this and the oven below.

The depth of the lower oven is about two *Engliſh* feet and a half; the ſecond above four.

An Account of the LATITUDE of *Conſtantinople* and *Rhodes*.

Written by Mr. John Greaves, *and directed to the moſt Reverend Dr.* James Uſher, *Archbiſhop of* Armagh. *Firſt publiſhed by* Thomas Smith, *D. D. in the* Philoſophical Tranſactions, *Numb.* 178. *for the month of* December, 1685.

UPON intimation of your Grace's deſires, and upon importunity of ſome learned men, having finiſhed a table, as a key to your Grace's exquiſite *Diſquiſition touching* Aſia *properly ſo called*; I thought my ſelf obliged to give both you and them a reaſon, why in the ſituation of *Byzantium* and the iſland *Rhodus* (which two eminent places I have made the παραπήγματα and bounds of the chart) I diſſent from the traditions of the ancients, and from the tables of our late and beſt Geographers; and conſequently, diſſenting in theſe, have been neceſſitated to alter the Latitudes, if not Longitudes of moſt of the remarkable cities of this diſcourſe. And firſt for *Byzantium*; the received latitude of it by *Appianus*, *Mercator*, *Ortelius*, *Maginnus*, and ſome others, is

is 43 degrees and 5 minutes. And this alſo we find in the *Baſil* edition of *Ptolemy*'s Geography, procured by *Eraſmus* out of a *Greek* MS. of *Pettichius*. The ſame likewiſe is confirmed by another choice MS. in *Greek* of the moſt learned and judicious Mr. *Selden*, to whom for this favour and ſeveral others I ſtand obliged. And as much is expreſſed in the late edition of *Ptolemy* by *Bertius*, compared and corrected by *Sylburgius* with a Manuſcript out of the *Palatine* library. Wherefore it cannot be doubted, having ſuch a cloud of witneſſes, but that *Ptolemy* aſſigned to *Byzantium*, as our beſt modern Geographers have done, the latitude of 43°. 5′. And this will farther appear, not only out of his Geography, where it is often expreſſed, but alſo out of his Μεγάλη σύνταξις, or *Almageſt*, as the *Arabians* term it, where deſcribing the parallel paſſing διὰ Βυζαντίου, he aſſigns to it 43°. 5′. What was the opinion concerning *Byzantium* of *Strabo* preceding *Ptolemy*, or of *Hipparchus* preceding *Strabo*, or of *Eratoſthenes* ancienter, and it may be accurater than all of them, (for (*a*) *Strabo* calls him τελευταῖον πραγματευσάμενον περὶ τῆς γεωγραφίας); though (*b*) *Tully* makes *Hipparchus*

(*a*) Lib. 2. (*b*) Epiſt. ad Attic.

often

often reprehend *Eratoſthenes*, as *Ptolemy* after him doth *Marinus*, their writings not being now extant, unleſs thoſe of *Strabo*, cannot be determined by us. But as for *Strabo*, in our inquiry, we can expect little ſatisfaction; for his deſcription of places, having more of the Hiſtorian and Philoſopher (both which he hath performed with ſingular gravity and judgment) than the exactneſs of a Mathematician, who ſtrictly reſpects the poſition of places, without inquiſition after their nature, qualities, and inhabitants (though the beſt Geography would be a mixture of them all, as *Abulfeda* an *Arabian* Prince, in his *Rectification of Countries*, above three hundred years ſince hath done;) I ſay, for theſe reaſons we can expect little ſatisfaction from *Strabo*, and leſs may we hope for from *Dionyſius Afer*, *Arrianus*, *Stephanus Byzantinus*, and others. Wherefore next having recourſe to the *Arabians*, who in Geography deſerve the ſecond place after the *Græcians*, I find in *Naſſir Eddin* the Latitude of *Byzantium*, which he terms *Buzantiya* and *Conſtantiniya*, to be 45 degrees, and in *Vlug Beg*'s Aſtronomical Tables the ſame to be expreſſed. *Abulfeda* chiefly follows four principal authors as his guides, in the compiling of his Geographical Tables; thoſe are, *Alfaras*, *Albiruny*,

Hon

Hon Saiid Almagraby, laſtly *Ptolemy*, whoſe Geography he terms a *Deſcription of the Quadrant* (or the fourth part of the earth) inhabited; and all theſe, according to his aſſertion, place *Byzantium* in 45 degrees of Latitude. And here it may juſtly be wondered, how this difference ſhould ariſe between the *Greek* Copies of *Ptolemy*, and thoſe tranſlated into *Arabick* by the command of *Almamon* the learned *Calif* of *Babylon*; for *Abulfeda* expreſly relates, that *Ptolemy* was firſt interpreted in his time, that is, in the computation of *Almecinus* in *Erpenius*'s edition, and of *Emir Cond* a *Perſian* Hiſtoriographer, more than eight hundred years ſince; concerning which *Abulfeda* writes thus: *This book* (diſcourſing of *Ptolemy*'s Geography) *was tranſlated out of the* Græcian *language into the* Arabick *for* Almamon. And in this I find (by three fair MSS. of *Abulfeda*) *Byzantium* to be conſtantly placed in 45°. and as conſtantly in the *Greek* copies in 43°. 5′. But in the *πεῤχειρει κανόνες* of *Chryſococca*, out of the *Perſian* Tables (made about the year 1346 in *Scaliger*'s calculation) it is placed in 45°. To reconcile the difference between the *Greeks* and *Arabians* may ſeem impoſſible; for the common refuge of flying to the corruption of numbers by tranſcribers, and laying

laying the fault on them, which ſometimes is the author's, will not help us in this particular; ſeeing the *Greek* copies agree amongſt themſelves, and the *Arabick* copies amongſt themſelves. The beſt way to end the diſpute, will be, to give credit concerning the Latitude of *Byzantium* neither to the *Greeks* nor *Arabians*. And that I have reaſon for this aſſertion, appears by ſeveral obſervations of mine at *Conſtantinople*, with a braſs Sextant of above four foot *radius*; where taking in the ſummer ſolſtice the meridian altitude of the ſun, without uſing any προσθαφαίρεσις for the parallax and refraction (which at that time was not neceſſary,) I found the Latitude to be 41 degrees, 6 minutes. And in this Latitude in the Chart I have placed *Byzantium*, and not in that either of the *Greeks* or *Arabians*. From which obſervation, being of ſingular uſe in the rectification of Geography, it will follow by way of corollary, that all maps for the North-Eaſt of *Europe* and of *Aſia*, adjoining upon the *Boſphorus Thracius*, the *Pontus Euxinus*, and much farther, are to be corrected; and conſequently the ſituation of moſt cities in *Aſia* properly ſo called, are to be brought more Southerly than thoſe of *Ptolemy* by almoſt two intire degrees, and

and than thoſe of the *Arabians* by almoſt four.

Concerning *Rhodes* it may be preſumed, that having been the mother and nurſe of ſo many eminent Mathematicians, and having long flouriſhed in Navigation by the direction of theſe, and by the vicinity of the *Phœnicians*, they could not be ignorant of the preciſe Latitude of their country, and that from them *Ptolemy* might receive a true information. Though it cannot be denied, but that *Ptolemy* in places remoter from *Alexandria* hath much erred. I ſhall only inſtance in our own country, where he ſituates Λονδίνιον, that is, *London*, in 54 degrees of Latitude; and the τὸ μέσον, or the middle of the *Iſle of Wight* (which in the printed copies is falſly termed Ουίκτησις, but in the MSS. Ουῆκτις) in 52 degrees and 20 minutes of Latitude. Whereas *London* is certainly known to have for the altitude of the pole, or Latitude of the place, only 51 degrees and 32 minutes; and the middle of the *Iſle of Wight* not to exceed 50 degrees and ſome minutes.

But in my judgment *Ptolemy* is very excuſable in theſe and the like errors, of ſeveral other places far diſtant from *Alexandria*; ſeeing he muſt for their poſition neceſſarily have depended either upon relations of travellers,

vellers, or obſervations of mariners, or upon the longitude of the day, meaſured in thoſe times by *Clepſydræ*; all which how uncertain they are, and ſubject unto error, if ſome celeſtial obſervations be not joined with them, and thoſe exactly taken with large inſtruments (in which kind the ancients have not many, and our times (excepting *Tycho Brahe*, and ſome of the *Arabians*) but a few) I ſay, no man that hath converſed with modern travellers and navigators, can be ignorant. Wherefore to excuſe theſe errors of his (or rather of others fathered by him) with a greater abſurdity, by aſſerting the poles of the world ſince his time to have changed their ſite, and conſequently all countries their Latitudes, as *Mariana* the maſter of *Copernicus*, and others after him have imagined; or elſe to charge *Ptolemy*, being ſo excellent an artiſt, with ignorance, and that even of his own country, as *Cluverius* hath done (from which my obſervations at *Alexandria* and *Memphis* may vindicate him) the former were too great a ſtupidity, and the latter too great a preſumption. But to return to *Rhodes*, an iſland (in *Euſtathius*'s comment upon *Dionyſius*'s περιήγησις) of 920 furlongs circuit, where, according to *Ptolemy*, the parallel paſſing διὰ Ῥόδου hath 36 degrees of Latitude, and ſo hath

hath *Lindus* and Ἰηλυσσός, the chief cities of the iſland; the ſame is confirmed by the MS. but where the printed copy and *Euſtathius* read Ἰηλυσσός, which *Mercator* renders *Talyſſus*, the MS. renders Ἰλισὸς. *Abulfeda* in ſome copies ſituates the iſland *Rhodes* (for he mentions no cities there) in the Latitude of 37 degrees and 40 minutes; and the Geography of *Said Ibn Aly Algiorgany*, commended by *Gilbertus Gaulmyn*, in 37 degrees, if it be not by a tranſpoſition in the MS. of the numerical letters in *Arabic*, 37 for 36, which by reaſon of their ſimilitude are often confounded in *Arabick* MSS. By my obſervations under the walls of the city of *Rhodes*, with a fair braſs aſtrolabe of *Gemma Friſius*, containing 14 inches in the diameter, I found the Latitude to be 37° and 50′. A larger inſtrument I durſt not adventure to carry on ſhore in a place of ſo much jealouſy. And this Latitude in the Chart I have aſſigned to the city *Rhodes* (from the iſland ſo denominated, upon which on the Northeaſt ſide it ſtands ſituated) better agreeing with the *Arabians* than with *Ptolemy*, whom I know not how to excuſe.

The Report made by the Lord Treaſurer *Burleigh* to the Lords of the Council, of the Conſultation had, and the Examination of *The plain Diſcourſe and humble Addreſs for our gracious Queen* Elizabeth, *her moſt excellent Majeſty to peruſe and conſider, as concerning the needful Reformation of the vulgar Kalendar, for the civil Years and Days accompting of verifying according to the time truly ſpent, by* John Dee, Martii 25°. 1582.

With Reflections *made on that Paper by Mr.* John Greaves, 1645. *Firſt publiſh'd by Dr.* Thomas Smith *in the* Philoſophical Tranſactions, *Vol. XXI. Numb.* 257, *for* October, 1699.

IT was agreed by Mr. *Digges*, Mr. *Savile*, and Mr. *Chambers*, that upon their ſeveral peruſals of the book written by Mr. *Dee*, as a Diſcourſe upon the Reformation of the vulgar Kalendar for the civil year, that

that they do allow of his opinion, That whereas in the late *Roman* kalendar reformed, there are ten days cut off to reduce the civil year to the ſtate it was eſtabliſh'd in the Council of *Nice*; the better reformation had been to have cut off eleven days, and to have reduced the civil year according to the ſtate it was in at the birth of Chriſt; and ſo they all agree, that ſuch a reformation had been more agreeable to the account of Chriſt. And ſo they do alſo aſſent, that having regard to the Council of *Nice*, the ſubtraction of ten days is agreeable to truth; and therefore the better to agree with all countries adjacent, that have received the reformation of ſubtracting ten days only, they think it may be aſſented unto without any manifeſt error, having regard to obſerve certain rules hereafter, for omitting ſome leap-years in ſome hundred years. And for the ſubtracting of ten days, Mr. *Dee* hath compiled a form of a kalendar, beginning at *May*, and ending at *Auguſt*, wherein every of thoſe four months, *May*, *June*, *July*, *Auguſt*, ſhall have in the ends of them ſome days taken away, without changing of any feaſt or holy-day, moveable or fix'd, or without altering the courſes of *Trinity Term*; that is to ſay, *May* to conſiſt upon twenty-eight days, taking from it three days;

June to have twenty-nine days, taking from it but one day; *July* to consist of twenty-eight days, taking from it three days; *August* to consist of twenty-eight days, taking from it three days; all which days subtracted make ten days; in the which four months, no festival day is changed, but remain upon the accustomed day of their months.

And because the *Roman* Kalendar hath joined to it a great company of rules, of which only are capable the skilful Computists or Astronomers, it is thought good to make a short table like an Ephemeris, to continue the certainty of all the feasts moveable depending only upon *Easter*, and agreeing with the *Roman* Kalendar; which may serve for an hundred or two hundred years, and so easily renewed, as we see yearly Almanacks are, if the sinners of the world do not hasten a dissolution.

Whereupon her majesty may please, upon report, to commit it to consideration of council, whether she will have this reformation publish'd; which if she will, it were expedient that it were done by proclamation from her majesty, as thereunto advised and allowed by the archbishops and bishops, to whose office it hath always belonged to determine and establish the causes belonging to ecclesiastical government. *Re-*

Reflections made on the foregoing Paper, by Mr. John Greaves, 1645.

THIS reformation of the *Roman* kalendar propoſed by Mr. *Dee*, as I cannot wholly approve, ſo I cannot altogether diſapprove. For I like the ſubtraction of ten days, as the church of *Rome* hath done, beginning the computation from the Council of *Nice:* tho' it cannot be deny'd, but that the reformation from the time of our Saviour had been much better. But ſince the fathers of the Council of *Nice* thought it more wiſdom to look forwards than to look backwards, and to have greater care of avoiding diſtractions in the church, about the celebration of *Eaſter* for the future, than to remedy the errors paſt, I think we ſhall do well, with the church of *Rome*, to follow their example. And whereas ſome have thought of a more exact calculation, than this emendation introduced by Pope *Gregory* XIII. which they ground upon the late aſtronomical obſervations of the learned *Tycho Brahe*; yet ſince the difference is not ſo great, as to make any ſenſible error in many ages, and ſince that error may be eaſily corrected, by the omiſſion of an intercalary day, I think it not fit, for ſo ſmall a nicety, to make a new diſſenſion in the

church. Much leſs am I of their opinion, who think this correction of the year therefore to be rejected, becauſe it comes recommended from the church of *Rome*; which were all one as to refuſe ſome wholſome potion, becauſe it is preſcribed by a phyſician, whoſe manners we approve not of. And thus far I aſſent to Mr. *Dee*.

But I cannot ſubſcribe to his opinion, that this reformation ſhould be made by the ſubtraction of ten days out of one year alone. For though I grant that this were a quick cure of a lingering diſeaſe, yet it is againſt all rules of art, in curing one malady to make ten. For it cannot be, but that the defalcation of ten days in one year, muſt be of infinite diſturbance in the common-wealth, in all contracts, where neceſſarily a certain time is defined. And therefore when *Julius Cæſar* the dictator corrected the *Roman* year, by the help of *Soſigenes* the Mathematician, after this manner, that is, by ſubtraction of days; that year, in which he did it, was called by the ancients *annus confuſionis*, by reaſon of the great confuſions and inconveniences, which thereby happened. And I doubt not but the year 1582, in which the defalcation of ten days was made by the bull or edict of Pope *Gregory*, might juſtly alſo be ſtiled *annus confuſionis*.

But

But ſuch examples as theſe are not to be imitated. For what *Cæſar* did as Dictator, or what *Gregory* XIII. did as Pope, the one by the power of the temporal ſword, the other by the ſpiritual ſword, is not to be practiſed by gracious princes.

I ſhall therefore humbly recommend to his majeſty's wiſdom and favourable conſideration that courſe, which was long ſince propoſed by many able Mathematicians to Pope *Gregory*, upon the firſt notice of his purpoſe to correct the kalendar; which if it had been known either to Mr. *Dee*, or to his learned judges, or to the wiſe and honourable *Burleigh*, the reformation with us had long ſince been finiſhed, and not one man prejudiced in his eſtate. The manner was this: That for forty years ſpace, there ſhould be no biſſextile or intercalary years, or, as we call them, leap-years, inſerted in the kalendar. By which courſe it is moſt evident, that ten days will be ſubtracted in forty years, and theſe forty years will be each of them *anni æquabiles*, conſiſting of three hundred ſixty-five days, as our common and ordinary years do, without any alteration in the whole year. And this being beyond all exceptions, had been readily entertained by Pope *Gregory*, had not his ambition been greater than his judgment.

For he was willing to have the honour of this emendation, and not to leave it to his ſucceſſors, whereby the year ever ſince hath been called *Gregorianus annus*. My opinion therefore is, that by his majeſty's letters patents ſome skilful Aſtronomer ſhould be appointed to have the compiling and publiſhing, within his majeſty's dominions, of all kalendars and almanacks for forty years; in which ſpace, by omitting the intercalations, we ſhall at length come to agree with the account of the church of *Rome*. And every year, during this time of forty years, ſhall be as is this preſent year 1645, and as thoſe of 1646 and 1647 will be in the uſual and ordinary computation.

John Greaves.

Thoughts

Thoughts upon the Improvement of the Art of NAVIGATION.

Addreſs'd to the Lord High-Admiral of England, *by Mr.* John Greaves. *Now firſt publiſh'd from a Manuſcript in the* Savilian *Library at* Oxford.

I Preſent your lordſhip with the excellencies of another man, and with my own imperfections in the tranſlation of theſe diſcourſes of a learned gentleman of Monferrat. *In which, if that happen, which is often ſeen in the tranſplantation of vegetables, that they loſe much of their true reliſh and worth, by being brought into another climate, yet your lordſhip will be pleas'd to accept of the ſincerity of my intentions: ſince neither the luſtre of your lordſhip's family, nor the rare eminencies of your perſon, nor any expectations of my own have induced me to this dedication; but a right ſenſe and apprehenſion of your lordſhip's merits, and ſpecial obligations upon the profeſſors of Navigation. Amongſt which number, tho' I do not rank myſelf, yet having in ſeveral voyages obſerved their abilities, valour, and loyalty to their king and country, I have ever thought them worth the cheriſhing as a conſiderable party, both for the honour of the kingdom abroad, and ſtrength*

it at home. In which kind your lordſhip, next to his ſacred majeſty, hath joined ſo much ſweetneſs and wiſdom together, and ſo far won upon their affections, that I think never any ſubject was a greater maſter of their hearts, or at whoſe command they would more readily ſacrifice their lives in ſervice of their prince. And this their forwardneſs hath often cauſed me to wonder, how men ſo low in their birth and education ſhould come to ſuch a height of reſolution, that if for theſe many years there hath been any thing performed full of courage, and worthy of our anceſtors, it hath been undertaken and accompliſh'd by them. And in this kind they have often in the Streights *given ſuch a demonſtration of themſelves, that I may juſtly ſay, in their veins runs much of that, which, if we call things by their right names, is true Gentility. Yet neither is this ſpoken to the diſparagement of any others, amongſt whom there are many of great parts and abilities, but rather to incite ſuch not to let that profeſſion, which is the honour and ſecurity of this kingdom, to be born up only by the meaner and inferior rank of people. And when I conſider with my ſelf, with how much pleaſure and ſatisfaction, that I may not ſay profit, (this latter being a conſideration fitter for the complexion of citizens) the art*

of

of Navigation may be learnt and practiſed; I cannot but condemn the incogitancy of the greater part of our Gentry, who chooſe rather to trifle away their time, for which they are accountable to God and to their Country, in ſuch low actions, that it were a ſhame to mention, what they are not aſham'd to practiſe. And if theſe have been juſtly pretermitted in public ſervices at ſea, and men of lower quality, but of greater abilities, have been preferr'd before them, they are not to tax their ſuperiors of partiality, but to blame their own incapacity. And ſurely would they look inwards, and behold themſelves in the true glaſs of their own worth, which repreſents them as they are, and not in the falſe one of their anceſtors, which repreſents them only as they ſhould be, they would not conceive themſelves injured by this præterition. For how can they imagine that a few aerial titles, without any foundation of worth, ſhould make them fit objects of reſpect to a man, that rightly underſtands the ground of honour and nobility to be the virtue of the mind, and that all other exterior ornaments acquired by our anceſtors, are but the gifts of fortune? And tho' this may ſeem a digreſſion from the following diſcourſes, in which I aſſume nothing to my ſelf but the errors of a tranſlator; yet when I conſider your lordſhip, not only

only as lord of a family, but as admiral of the ſeas; and when I remember how often I have heard men of great merit in the profeſſion of Navigation ſcorned by ſome ſuch of little worth, I could not, before ſo honourable a patron, let the equity of their cauſe paſs without vindication. Wherefore your lordſhip's judgment is deſervedly to be applauded, in having made choice for marine employments, not ſuch as could ſhew the faireſt pedigree and ancienteſt houſe, but thoſe of the moſt eminent abilities, reflecting more upon the merits of the men, than on the quality of the perſons; by which election, as your lordſhip hath gained honour and reputation to the ſeamen, ſo alſo a love and admiration, not only from them, but from all ſuch as pretend to virtue and worth. And if under your lordſhip's countenance a farther benefit might be procured for men of that profeſſion, in the edition of more correct Sea-Charts, and exacter Rutters, by collecting out of ſeveral voyages the obſervations of the ableſt mariners; not only many dangerous errors might be amended and avoided in the practiſe of Navigation, but alſo Geography might be brought to a greater height of perfection. Whereas now, if Europe *be excepted, I may ſafely affirm, by ſeveral obſervations of mine in foreign parts, as alſo by collating the Geographers*

phers of the Arabians, *the beſt judges of the eaſtern parts, that few cities are placed in their right ſituation. But this muſt be a work of time, and requires the co-aſſiſtance of many, and of able hands. In the mean while I have brought to your lordſhip, till that greater deſign may be accompliſh'd, the fruits of ſome leſſer labours at ſea, which if they may be uſeful at land, I humbly crave your lordſhip's favourable acceptance.*

IN the art of Navigation, theſe things are principally conſiderable; the longitude and latitude of places, and the rumb or courſe leading to them, together with the ſpace, diſtance, or way the ſhip makes in ſailing upon each rumb; which being known, all other queſtions of Navigation are eaſily reſolv'd. Now theſe things may be known by the ſea-chard, and by the compaſs, and by inſtruments of obſervation. For the chard is for the ſea, the ſame as *Ptolemy*'s or *Mercator*'s maps are for the land, wherein all ports, harbours, capes, bays, ſands, rocks, iſlands, and the like, are put down, with reſpect to their true longitude and latitude. The compaſs gives direction in ſteering to keep the true rumb or courſe. And laſtly, the inſtruments of obſervation ſerve in the midſt of the ocean to ſhew the place of the

ſhip,

ſhip, by taking the meridian altitude of the ſun, or of the ſtars, and thereby finding the height of the pole, and conſequently the latitude of the place, together with reſpect had to the rumbs upon which the ſhip hath ſail'd, and the way which ſhe hath made; and then calculating theſe either by the reſolution of ſpherical triangles with ſines and tangents, or mechanically by a ſcale. If therefore there ſhall be any error committed in the poſition of places in the ſea-chard, or in the true uſe of the compaſs, or in the inſtruments of obſervation; it muſt neceſſarily follow, that how well qualified and experienced ſoever ſea-men otherwiſe be, yet they muſt of neceſſity commit many errors.

To begin therefore firſt with the ſea-chards: the very projection and ground-work of many of them is erroneous; neither a due proportion being allowed for the leſſening of the parallels toward the poles; neither where this proportion is obſerved, are the places rightly ſituated in reſpect of their longitude and latitude; either for want of experience in thoſe men who make the chards; or becauſe ſeamen do not willingly communicate their obſervations; or if they do, for want of art and care their obſervations prove imperfect.

Secondly,

Secondly, for the uſe of the compaſs; as it is the beſt inſtrument of navigation, ſo, if it be not conſiderately handled, it may occaſion great errors. For by experience it is found, that almoſt in all meridians there is ſome variation of it; the needle, inſtead of pointing directly to the north, pointing either eaſterly or weſterly, and that with ſuch an uncertainty, that in ſome meridians this variation is many degrees, in ſome a few, in ſome hardly ſenſible. If therefore, eſpecially in long voyages, ſea-men ſhall either neglect, or contemn this property of the compaſs, beſides the loſing much time in performing their voyage, they may run into many other inconveniences. Yea though ſea-men ſhould diligently obſerve thoſe tables of variation, which have been carefully collected and preſerved by the induſtry of ſome learned men; yet if reſpect be not had to that admirable property of the *magnes*, which hath but lately been diſcovered, whereby we find, that in the ſame meridians there is a variation of former variations of the magnetical needle, they will fall into dangerous errors; if in ſailing by the compaſs they do not continually ſearch the variation, and either by an additional or ſubtractive application of it, rectify the true points of their compaſſes.

Thirdly,

Thirdly, for inſtruments of obſervation; many of thoſe, which are neceſſary, are not made ſo exact as they might be, by reaſon that all workmen have not the like skill; and thoſe that buy them, for the moſt part have not ſufficient judgment to diſtinguiſh them. So that ſeamen failing in their inſtruments, muſt neceſſarily fail in their obſervations. Beſides, too many ſuperfluous and expenſeful inſtruments are recommended by artizans to poor mariners, whereby they are impoveriſhed. Thoſe which by often trial have been found to be the neceſſarieſt and exacteſt, and of no great price, are theſe; *David*'s ſtaff for latitudes; a ſemicircle, or azimuth compaſs, for finding the variation of the needle; the *Jacob*'s ſtaff for diſcovering the meridian-altitude of the ſtars, tho' in this laſt there ſhould be had ſome reſpect to the eccentricity of the eye, which is different from the center of the ſtaff; and therefore the angle which is made, muſt needs be different, and if not corrected, uncertain. The compaſſes would be better, if they were a little more enlarged, and the circles in which they move made exacter; or elſe, if inſtead of two circles they moved in four. All other inſtruments are ſuperfluous, unleſs celeſtial and terreſtrial globes. The general omiſſion of carrying

carrying those to sea, hath occasioned that so few understand the principles and grounds of their profession.

And thus far of the instrumental part of navigation: something should be said of the living part, that is, of the seamen. And though here much might be spoken, yet seeing I went to sea not with any purpose to question the abilities of any, but to inform my self, I shall omit this, and briefly express what I conceive may conduce to the perfection of the art, at least of the artists.

First, that a Professor should be appointed for the public reading of the art of Navigation, who, together with the assistance of the master and brethren of the *Trinity-House*, should examine in the principles of the art all such seamen as have not yet been masters and commanders of ships, as likewise all pilots and masters mates, without whose approbation they should not be permitted to take any such charge: as also to appoint for each voyage, in every great ship, one of the mates to shew and direct at all times of leisure (which in summer voyages are frequent) the common sort of mariners, in the steering and cumming of the ship; in making observations, and in all other practices of navigation; and that

the

the maſter or captain of the ſhip ſhould ſee this diligently performed; and either at ſea puniſh ſuch as are negligent, or, when he returns home, give up their names to the *Trinity-Houſe* to be cenſured.

Secondly, that the maſter and mates of every ſuch ſhip ſhould diligently keep a diary of their voyage; wherein, beſides their ordinary obſervations, they ſhall write down what variations of the compaſs they find, what winds, tides, and currents they meet with, and where. And as often as they come into any unknown harbours or ports, they ſhall ſound them, and mention what anchorage they find, and at how many fathom water; which is the moſt convenient and ſafeſt place for ſhips to ride in, and to what winds and dangers the road is moſt expos'd; whether there be any rocks, flats, or ſands, either in the port or near the entrance, and by what eminent land-marks thoſe dangers may be avoided, and in what manner thoſe marks lie upon the compaſs, and how they are to be ſhut in ſailing, or opened. Alſo they ſhall give information of thoſe errors and defects which are in books of Navigation, eſpecially in thoſe they term Rutters and Wagoners; that upon correcting the errors, and ſupplying the defects, more exact books may be printed by the

Pro-

Profeſſor, and better Chards may be drawn: to which purpoſe it were neceſſary, and of no great expence, that they ſhould be enjoined to carry a Quadrant of wood, 3, or 4, or 5 feet the *radius*, to take at land the altitude of the pole, and latitude of the place in as many ports as they ſhall ride. For want of which courſe, the marine towns out of *Europe* are moſt of them falſly graduated in the Chards.

Thirdly, that only ſuch ſhould make the Sea-inſtruments, as ſhall be approved by the Profeſſor for their ſufficiency; and that none ſhall undertake to teach the uſe and practice of them, but ſuch as he ſhall judge worthy and able. Laſtly, for the increaſe of mariners, ſince the profeſſion is without much difficulty learned, if it be rightly taught, and ſince the pains are far eaſier than of moſt husbandmen, and the gains far greater, every ſhip that goes to ſea upon any long voyage ſhould be injoined to take in 3 or 4, or 6 or 8, according to her bigneſs, of young men out of the country, who being inſtructed, as was ſaid before, by the Mates, might quickly learn the practice of Navigation; and having learned it, it would be a hard matter ever after to keep them from the ſea.

For the diſcovery of Longitudes ſeveral ways by ſeveral men have been propoſed.

Firſt, by lunary eclipſes; and this, as the moſt abſolute way, hath been recommended to us by *Ptolemy* and the ancients.

But becauſe lunary eclipſes happen ſeldom, and when they happen are not always ſeen by reaſon of the interpoſition of clouds, or if ſeen, are but rarely obſerved with fit inſtruments; this can be of no uſe at ſea, but only at land. And yet at land too there may be this objection made, that if there be an error but of one minute of time committed (as who can promiſe to come ſo near?) there will be an error of a quarter of a degree in the true longitude.

Secondly, by the difference of time in the paſſage of the moon under two different meridians. But this requires, firſt, that the tables of the moon's motion be moſt exactly calculated, which *Tycho* in part hath done: ſecondly, that the equation of days be agreed upon, which is as yet diſputable: thirdly, that the meridians be found to a minute, which no man can diſcover on the land; how much then leſs ſhall he be able at ſea to do it? And if there he ſhall err but one degree in his meridian, he will err almoſt 30 in his longitude; and as much if he

he ſhall err 4 minutes of time in the moon's paſſage under the meridian.

Thirdly, by the diſtance of the moon from ſome fixed ſtar near the ecliptic, which diſtance at the ſame time is to be calculated out of exact tables of the motion of the moon, and at the ſame time is to be obſerv'd with inſtruments. But this, beſides the former difficulties of exact tables, and of an exact equation of days, hath likewiſe theſe, that if the obſervation be made by the croſs-ſtaff (which is the moſt proper for ſuch a work) there muſt be reſpect had to the eccentricity of the eye. Again, the parallax of the moon, unleſs it be in the 90th degree, makes the diſtance greater than it ſhould be, ſtill leſſening till we come to the meridian, or increaſing till we come to the horizon.

Fourthly, by the declination of the moon when ſhe is near either of her nodes; for in that poſition her declination will be very ſenſible. But this falls not out every day, and when it doth fall out, it will be neceſſary to know the altitude of the pole to a minute, as alſo the azimuth and almicantar of the moon, both which cannot be hoped for at ſea; ſo that if we miſs but a minute of her declination, we cannot err leſs than a degree in longitude.

Fifthly, by a conſtant and uniform motion for ſome months or years. And indeed this would end the diſpute, but I fear will never be attained.

Sixthly, by the variation of the needle in ſeveral meridians. But this project is overthrown by the variation of the variation under the ſame meridian, which hath been of late diſcovered.

A Letter *of Mr.* John Greaves *to his very worthy Friend Doctor* Scarborough, *at the Lord* Lucas's *Houſe by* Colcheſter, *relating to the Height of the greateſt* Egyptian *Pyramid, as repreſented in the firſt Edition of his* Pyramidographia.

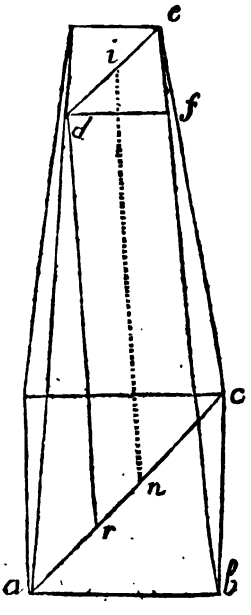
SIR,

HAving recalculated the altitude of the greateſt *Egyptian* Pyramid, *pag.* 69. *lin.* 15. * of my book, I find the numbers,

* This error is corrected in pag. 94. of the preſent edition.

either

either by the printer or myſelf, to have been miſtaken; for inſtead of 481, it ſhould be 499; the proportions ſtanding thus:



a b 693 feet.
b c as much.
a d or *b f* as much.
f e 13 feet, or $13\frac{280}{1000}$, found by obſervation.

② *ab* + ② *bc* = ② *ac*
② *a b* 480249
② *b c* 480249

② *ac* 960498
√ ② *ac* 980
$\frac{1}{2}$√ ② *ac* 490 *an*

Rurſus.

② *df* + ② *fe* = ② *de*
② *df* 169
② *fe* 169

② *de* 338
√ ② *de* 18
$\frac{1}{2}$√ ② *de* 9 = *di.*

Rurſus.

$an - di = ar$

Ergo ar 481.

Rurſus.

$②ad - ②ar = ②rd$

$②ad$ 480249

$-②ar$ 231361

$②dr$ 248888

$\surd ②dr$ $498\frac{884}{997}$, *altitudo Pyram.*

Vel,

Si df ſit $13\frac{280}{1000}$

$②df$ 176,358400

$②fe$ 176,358400

$②de$ 352,716800

$\surd ②de \ldots 18\frac{780}{1000}$

$\frac{1}{2}\surd ②de \ldots 9\frac{390}{1000} = di.$

Rurſus.

$an - di = ar$

Ergo ar $480\frac{610}{1000}$.

Rurſus.

$②ad - ②ar = ②rd$

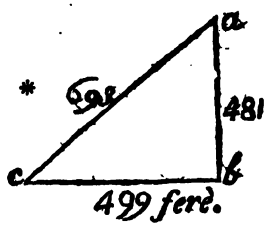
$②ad$ 480249.....

$-②ar$ 230985,972100

$②dr$ 249263,027900

$\surd dr$ $499\frac{268}{1000}$, *altitudo Pyramid.*

Per Trigonametriam.



* Ut 693 ad ſinum totum, ſcil. $a\,b\,c$:

Sic 481 ad ſin. $a\,c\,b$ 6940836... $\overline{43}.57'.15'' + \frac{81}{136}$.

Cujus complement. $\overline{46}.2'.45''$. ferè.

Ang. $c\,a\,b$.

Ut ſinus tot. 1000,00,00 ad 693:

Sic ſin. $c\,a\,b$ 71989,54 ad 499 ferè;

$b.\ e.$ $498\frac{887212}{10000000}$ alt. Pyram.

This

This computation is not ſo exact as the former of $499\frac{262}{1000}$, taking the ſide of the Pyramid at the top to be $13\frac{280}{1000}$ of the *Engliſh* feet divided into 1000 parts. I ſuppoſe the miſtake in my book hath been in putting down the ſide *a b* 481, for *c b* 499. Otherwiſe the computation is right; if I have not committed ſome error in my calculation, being full of troubles, and deſtitute of my books. You at your leiſure may examine it. If you have read over *Archimedis Lemmata*, I deſire you to ſeal it up, and ſend it to Dr. *Ent* in *Honey-lane* by the ſtandard in *Cheapſide*. There are no doubt many errors, and ſome things imperfect, in the *Arabic* copy, (of which I had only one) that muſt be corrected and ſupplied by *ſcholia*; tho' I think it not fit to alter any thing in the *Arabic* it ſelf, but to put it down faithfully as it is in the *Arabic* copy. I ſhould be glad to ſee you in my place at *Greſham College*, if I could once get off my ſequeſtration. He that is in the place doth no way deſerve it. Till two months are ended I ſhall not be in *London*.

Your affectionate friend and ſervant,

Dec. 24.

John Greaves.

Reflections on Mr. GREAVES's PYRAMIDOGRAPHIA.

Witten by an anonymous Author ſoon after the Publication of that Book; and now firſt printed from a Manuſcript in the Savilian *Library at* Oxford.

IN the computation of the Pyramid's altitude, in the laſt paper, the ways uſed are legitimate, and I preſume all the numbers are well and good, ſo that I need not take pains to examine them. What other matters I took notice of in the *Pyramidography* (as improprieties, defects, and doubts) I ſhall take the boldneſs with like freedom to preſent; eſpecially ſince by occaſion of the ſaid book I have twice been cenſured by one, whoſe excellencies I always had in eſtimation, and who might have ſpared to ſpeak of me, concerning whom he cannot know any thing but by partial ſuggeſtions from others.

Pag. 2. lin. 11. ‡ *A Pyramid being the leaſt capacious of any regular mathematical body.*] By *regular*, I ſuppoſe, is meant *ordinate*;

‡ Pag. 3. lin. 7, 8, 9, of the preſent edition.

but

but then it ſhould have been conſider'd, that this Pyramid is not, neither can be ordinate. For this is not equiterminal, becauſe the baſe is ſquare, and the riſing plains are triangles, and the ſides in both theſe figures are of the ſame length; all which compared together will be found neither equal nor equiangular. In the deſcription it's ſaid they are equilateral, which is indeed one condition to make ſolids equiterminal; but all three ought to concur, which here cannot. Secondly, This Pyramid is not, nor can be equiangular, where the angles are made one of 4 triangles, the other of 2 triangles and a ſquare. And we know that the *tetraëdrum* is the only Pyramid that is ordinate or regular, as *Campanus* calls it.

Leaſt capacious] It is well known, that no ſolid capacity can be aſſigned, but that there may a *Pyramis* (and that a regular one too) be made of as large content, whatever it be, if we will not be tied to Iſoperimetry. Elſe why ſhould *Euclid* direct how to conſtitute the equated regular bodies? It ſhould have been ſaid, It is the leaſt capacious of any iſoperimetral body, becauſe it is comprehended under a leſſer number of terms.

Pag. 68. lin. 18. † *By an exquiſite Radius.*] How ſhould that be known? Did the tranſom ſtand preciſely at right angles to the *radius?* There is not one amongſt many that does ſo; and if this angle be not right, the ſtaff is worth nothing. —*of ten feet in length*] It matters not how long, if it were not well divided, well framed together, and well handled. And though the *radius* were ten feet, yet I ſuppoſe the tranſom was but five: and either the diſtance of ſtations, or elſe the line to be meaſured (one of them) muſt in ordinary practice be accounted upon the tranſom; ſo that five feet in length did the main buſineſs of menſuration. It may ſeem therefore, that the naming of ten feet is rather to amaze, than convince the unskilful reader.

But further, concerning the way of menſuration; many doubts may be made. (1.) Why is it not expreſſed more fully, to ſatisfy them that can judge? (2.) Why any inſtrument at all was uſed? He ſaith, *Mathematicians uſe to do ſo when any obſtacle hinders their approach.*] But here was no obſtacle mentioned, nay rather all taken away; for it's ſaid, *The area on the north ſide afforded an even level, and a convenient diſtance to place my inſtruments.*] But what ne-

† Pag. 92. lin. 22. of the preſent edition.

ceſſity

ceſſity was there of a level? for there are ways to do it without. And (3.) what needed any inſtrument at all? Anſw. *Becauſe* (he ſaith) *Mathematicians uſe to do ſo.* No; never do they uſe to meaſure by proportion, where they may have liberty to uſe application. For in proportion, where they are to argue from the leſſer to the greater (as here they muſt) they cannot but commit greater error than they need by the applicatory way. (4.) Why did the author bind himſelf to the ſtaff, which is moſt tickliſh in handling of all others, and confines the obſerver to a right-angled triangle? Any other trilateral inſtrument would have given liberty to make uſe of any triangle, and would have been more tractable, and might be framed as portable. (5.) How was the collimation made? Had the ſtaff a ſight at that end next the eye? Or was he content to apply the end of it only to his cheek-bone, as the vulgar groſs manner is? And if the ſtaff was ſo long, how could he at the time of collimation remove the running ſight or tranſom to its exact place, when as (if it were not out of his reach, yet) it muſt needs trouble the obſervation, or totally overthrow it? And tho' all this could be done, yet how did he ſupport his ſtaff to ſtand all this while unmoveably? There is nothing ſaid of theſe things.

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things. One minute loſt in the angle could not in all probability miſs leſs than two fifths of a foot; and therefore half a degree (which we may well allow to be loſt) muſt miſs twelve feet. (6.) How could he be aſſured (tho' his ſtaff were true in all points) that he ſtood ſquare to the ſide that was to be meaſured? Nothing is ſaid to this. If the ſtanding were not ſo, how could one arm of the ſtaff be parallel to the length required, as it ought to be? Elſe the ſimilitude of the triangles faileth with the whole work thereon depending. (7.) Of what diſtance were the two ſtations? If not of ſome good proportion to the line required, all was loſt. And if their diſtance was meaſured by a line (for no chain is mention'd) it muſt be deceitful. The application of the line therefore was the beſt obſervation, and the beſt to be truſted, tho' the words in the book ſeem to truſt the other more.

Pag. 68. lin. ult. * Thales *propoſed a courſe how the altitude might be found*, viz. *by obſerving* (qua hora) *at what hour the ſhadow is equal to the height.*] Why did not the author tell us (ſince *Pliny* doth not) that it ſhould be obſerved (in one word) when the Sun is 45 degrees high? Or, if it be needful to pitch upon the hour, why is it not at

* Pag. 93. lin. 15.

ſome

ſome eminent time of the year (as at the Sun's being in the Tropic of *Cancer*, or in the Equinoctial, or when travellers cuſtomarily paſs that way) told us at what hour, or rather hours of each of thoſe days, that altitude muſt be? Or why is it not ſaid, at what two days of the year the Sun's meridian-altitude ſhall ſhew it? Or rather, why were not other proportions of ſhadows to the upright *gnomon* added (as well as that of equality,) ſuch as might be convenient to the ground whereon it ſtands, *&c.*? But the author likes not *Thales*'s way. For,

Pag. 69. ‡ *The extremity of the ſhadow is faint and ſcattering, uncertain, ſubject to error.*] Tho' it be ſo, yet the way is not ſo uncertain as by the croſs-ſtaff. That *penumbra* (faintneſs, or ſcattering) is made by reaſon that the ſun caſts down light from every point of his citerior hemiſphere. Now the ſun's apparent diameter is always much about 30′; ſo that the *penumbra* muſt extend to half a degree, which projected upon ſuch a plane as is mentioned there, and from ſuch an altitude as the top of the *Pyramis*, will extend to about nine feet; of which nine there needed not an error of above half, *viz.* 4½ feet; and ſo this way might be as good as was that by the ſtaff.

‡ Pag. 93. lin. 19.

Pag.

Pag. 69. lin. 14. † *Which, if we measure by its perpendicular, is* 481 *feet.*] This, it seems, was a meer oversight, not in the calculation (as the paper enough sheweth,) but in the transcription. See of the altitude and other particulars here following, as I calculated them *anno* 1646, *Decemb.* 11. when the book first came out.

By its perpendicular.] The Pyramid, *quatenus* Pyramid, hath no other altitude but that; the rest must be either the lengths of the sides, or the altitudes of the planes, but not the altitude of the Pyramid, in proper speaking; which the author seems to affect, pag. 76. lin. 20.* Here follow several things out of the author's *data*. —The base is square; each side of it, and each ascending side of the Pyramid is 693 feet; and the side of the square upon the top is $13\frac{28}{1000}$ feet. Out of these things given it will by due calculation follow, that

The perpendicular of each *hedra*, drawn from the top perpendicular to the base of the said *hedra*, is $603\frac{42}{100}$ feet. —The altitude of the *Pyramis* it self is $499\frac{228}{1000}$ feet. —The inclinations of the ascending planes to the base are each 55°. 45'. —The inclination of any two of the ascending *hedræ*

† In the present Edition, *p.* 94. *lin.* 9. it is, agreeably to Mr. *Greaves*'s correction, 499 feet.

* Pag. 104. l. 9. of the present edition.

one

one to the other is 108°. 28′.——The inclination of each ſide or angular line to the horizon is 46°. 05′.——The altitude of the upper ſtone, if it were continued up to a point, would be 9,753 feet more.

Pag. 74. lin. 16. * *And therefore.*] This inference is true, if the former proportional conjecture be true. But this might eaſily have been tried, whether thoſe *latera Pyramidis* or angular lines are ſtreight or not, by the eye (projecting them all one upon another) placed either above or below.

Pag. 78. lin. 17. † *In the winter not true.*] There might be added, *not at any time of the day.* For the latitude whereabout they ſtand is 29 ¼ gr. near: the meridian-altitude then is only 37 ½ gr. whereas the inclinations of the *latera* (or angular lines, which are the loweſt inclinations) are each 46°. 05′. So that they muſt needs caſt a ſhadow (then) all day long. And then, *non ipſa ſuas conſumit Pyramis umbras*; as reaſon (*lin.* 26.) and the art (not as is there ſaid, of meaſuring altitudes by ſhadows, but on the contrary) of knowing ſhadows by altitudes, doth neceſſarily inferr.

Lin. 24. ‡ *How could* Thales——*if thoſe Pyramids have no ſhadow at all?*] His anſwer, *In ſummer time, or almoſt for three*

* Pag. 101. lin. 20. † Pag. 107. l. 9. ‡ Ibid. l. 16, &c. of the preſent edition.

quarters

quarters of the year at mid-day.] This is true; but it may be queſtioned why theſe things were not done more preciſely? Why was not the juſt declination of each *hedra* taken, and, by the former *data*, their reclination found? Pag. 98.* ſeems to ſay, It ſtands aſpecting the four cardinal points; but that is but in groſs: It had been more uſeful to have ſet down the juſt time in reſpect of the two days of the year, and the hours alſo of thoſe two days, when the *Pyramis* did firſt and laſt devour its own ſhadow. And in ſummer, when the devouring time is come, to have given ſome rule whereby to find any day, upon what poſition of the ſun the ſhadow did end in the fore-noon, and begin again after noon; alſo upon what days the ſun ceaſed to view the northmoſt plain, and that both in the morning and evening; ſo likewiſe a rule to ſhew when the ſun every day in ſummer begins and ends the enlightning of the ſoutherly, the eaſt and weſtern plains.

Pag. 104. *lin.* 15. † *Deliberate conjecture.*] But no mention made how he ſtood at that conjecture. If not ſo, as the two Pyramids, with his body ſtanding in the vertical angle, made an iſoſceles triangle upon the plain, there could hardly be a probable conjecture, how deliberate ſoever.

* Pag. 132. † Pag. 141. lin. 5. A DISSER-

A Dissertation upon the *Sacred Cubit* of the *Jews* and the *Cubits* of the ſeveral Nations; in which, from the Dimenſions of the greateſt *Egyptian* Pyramid, as taken by Mr. *John Greaves*, the antient Cubit of *Memphis* is determined.

Tranſlated from the Latin *of Sir* Iſaac Newton, *not yet publiſhed.*

TO the deſcription of the Temple belongs the knowledge of the *Sacred Cubit*; to the underſtanding of which, the knowledge of the Cubits of the different nations will be conducive.

The *Roman* and *Greek Cubits (a)* were a Foot and a half, and, like the *Sacred Cubit*, conſiſted of ſix *Palms*, and twenty four *Digits*. For the *Roman* and *Greek* Feet contain'd four *Palms*, and ſixteen *Digits*. The *Roman* Foot was likewiſe divided into

(a) Vitravius lib. 3. Hero in Iſagoge. Heſychius. Suidas in vocibus πῆχυς & πούς. Columella lib. 5. de Re Ruſticâ, qui cubitum nominat *ſemipedem*, quaſi *pedis & ſemis*. Vid. & Frontin. de Limit. Agrorum; & Iſidor. Hiſpalenſem, lib. 15. c. 15. Authors are agreed upon theſe Cubits, amongſt whom *Agricola* and Mr. *Greaves* are eſpecially to be conſulted.

twelve *Unciæ* or *Pollices*, and was equal to $\frac{967}{1000}$ of the *Engliſh* Foot, as Mr. *Greaves*, who examined diligently the antient monuments in *Italy*, and conſider'd the arguments of former writers, as *Philander*, *Agricola*, *Pætus*, *Villalpandus*, *Snellius* and others, has determined with the greateſt accuracy of all other authors. The *Roman Cubit* is therefore $1\frac{4105}{10000}$ of the *Engliſh Foot*.

Of the *Greek Feet*, the *Attic* was moſt eminent. Modern writers repreſent it as equal to a *Roman* Foot and a *Semuncia* of that Foot; becauſe the *Greek Stadium* conſiſted of ſix hundred *Greek Feet*; and a *Roman Milliare*, or Mile, of a thouſand of the greater *Roman Paſſus*, or five thouſand Feet; and antiently eight *Greek Stadia* were equal to a *Roman Milliare*. But it is probable, that the neareſt round numbers were uſed here; and if we ſay, that the antients ſometimes made the *Stadium* equal to an hundred and twenty-five *Paſſus*, that proportion might be deduced, not from a compariſon of the Feet with one another, but from the foregoing proportion of the *Stadium* to the *Milliare*, expreſs'd very near the truth in round numbers. This conjecture is confirm'd by reflecting, that *Polybius*, cited by *Strabo*, receded from this vulgar computation, and repreſented the *Milliare* as equal to 8 *Stadia*,

dia, and one third part; by which means the *Attic* Foot will be equal to the *Roman*. The former computation is favour'd by the *Ptolemaic* Foot, which is equal to a *Roman* Foot and a *Semuncia*, if the latter Foot was deriv'd from the *Attic*. The latter computation is countenanc'd by the Porphyry pillar dug up at *Rome*, with this inſcription, ΠΟΔ. Θ. that is, *nine Feet*; for the Foot of this pillar, as meaſured by *Philander*, exceeded the *Roman* foot only a ninth part of an *Uncia*. This difference ſhews the Foot not to be *Roman*, and the inſcription proves it to be the *Greek* Foot. But whether it was the *Attic* Foot, let others determine. Till ſomething more certain ſhall appear, we ſhall aſſume nothing, but that the *Attic* Foot was neither leſs than the *Roman*, nor greater than the *Roman* above a *Semuncia*. This being granted, we ſhall have the magnitude of the *Attic* Cubit to pretty great exactneſs.

The *Derah*, or *Arabian* Cubit (*b*) conſiſted in like manner of ſix *Palms*, and 24 digits; and, in my opinion, was very near equal to the *Roman* or *Attic* Cubit. For it was a fifth part of the Royal Cubit of *Ægypt*; that is, as will immediately be

(*b*) *Abulfedæ* Geograph. Arab. and *Muhammed Ibn Meſſud*, quoted by Mr. *Greaves*.

ſhewn, four ſimple Cubits of *Ægypt*, which are now equal to five *Roman* ones.

Three *Arabian* Miles were likewiſe equal to the *Perſian Paraſanga*, that is, to thirty *Attic Stadia*, and conſiſted of 1000 *Orgyiæ*, or *Arabian* Paces, that is, 4000 Cubits; by which means the *Arabian* Cubit will be equal to the *Attic*. For the wandering *Arabians* at firſt ſerving in war under the *Romans*, and afterwards founding an empire in *Syria*, learned from the conquered people the money, weights, and meaſures of the *Romans* and *Greeks*. We ſhall paſs over this Cubit therefore, and proceed to thoſe which are more antient.

From the Pyramids of *Ægypt* accurately meaſured by Mr. *John Greaves*, I collect the length of the antient *Cubit* of *Memphis* in this manner. The ſide of the firſt Pyramid was 693 *Engliſh* feet. It is very probable, that at firſt the meaſure of it was determined by ſome round number of *Ægyptian* Cubits. *Ibn Abd Alhokm*, quoted by Mr. *Greaves*, tells us, that the meaſure of each ſide was an 100 Royal Cubits of the antient times. But it is probable, that the *Ægyptians* learn'd, from the *Orgyiæ* of the *Greeks*, their meaſure of four Cubits of *Memphis*, and gave it the name of the *Royal Cubit*. Thus the ſide of the Pyramid will be 400

ſimple

ſimple Cubits, or four *Arouræ*; and the *Cubit* of *Memphis* will be equal to $1\frac{732}{1000}$ of the *Engliſh* Foot.

That the Pyramid was built by the Cubit of this magnitude, appears from ſeveral dimenſions of it. The ſquare paſſage leading into it of poliſhed marble was in breadth and height $3\frac{463}{1000}$ of the *Engliſh* Foot, that is, two of the above-mentioned *Cubits* of *Memphis*. And of the ſame breadth and height were the four other galleries. In the middle of the Pyramid was a chamber moſt exquiſitely form'd of poliſh'd marble, containing the monument of the king. The length of this chamber was $34\frac{34}{100}$ *Engliſh* Feet, and the breadth $17\frac{19}{100}$; that is, it was 20 Cubits long, and 10 Cubits broad, the Cubit being ſuppoſed to be $1\frac{719}{1000}$ of the *Engliſh* Foot. The difference between this meaſure and the former is $\frac{125}{10000}$, or one thirtieth of a Foot, that is, about one ſeventh of an Inch; an error of no importance, if we conſider the much greater irregularities obſerv'd by Mr. *Greaves* in the beſt buildings of the *Romans*. The roof of this chamber conſiſted of nine oblong and parallel ſtones; the ſeven middle ones of which were of the ſame breadth, but the two outermoſt were leſs by half in breadth than the reſt; and the breadth of them all

Now Mr. *Greaves* found the meaſure of the height of the monument within to be 2 $\frac{860}{1000}$ Feet, the breadth within to be 2 $\frac{218}{1000}$ Feet, and the length of the exterior ſuperficies to be 7 Feet, 3 Inches and an half; that is, 7 $\frac{296}{1000}$ Feet. The height of the monument within was therefore 10 *Palms*, the breadth within 7 *Palms* and 3 Digits, and the length of the exterior ſuperficies 25 *Palms* and 2 Digits, without any ſenſible error. The height and breadth of the exterior ſuperficies was 3 Feet, 3 Inches and 3 quarters; that is, 11 *Palms* and 2 Digits and a quarter, if Mr. *Greaves* has been ſufficiently exact in ſetting down the dimenſions of it.

There are alſo other ſpecimens of this Cubit; as particularly that the whole length of that gallery, with the hypothenuſe of a rectangular triangle, whoſe baſe was 15 Feet, and height about 5 or 6, or perhaps 7 Feet, being meaſured by a cord, was 154 Feet. Subtract the hypothenuſe, and there will remain the length of the gallery, 138 Feet; that is, 20 times the breadth, or 20 *Royal Cubits*. Two other galleries were likewiſe meaſured, and found to be in length 110 Feet, that is, ſixteen *Royal Cubits*; and another Chamber was in breadth about 17 Feet, that is, 10 Cubits; and an *Anticameretta*, or *Anticloſet*, was in length 7 Feet, in breadth about 3 $\frac{1}{2}$ Feet; that is, 4 Cubits long, and

about 2 Cubits broad. And it is my opinion, that the Pyramid was built throughout after the meaſure of this Cubit.

If any perſon ſhall hereafter exhibit in this manner the dimenſions of the remains of the old buildings of the *Babylonians* and other nations, it will not be difficult to determine from thence the antient Cubits of thoſe countries. In the mean time I ſhall produce one inſtance, which occurs, as a ſpecimen of this calculation. Mr. *Purchas* (*c*) informs us, that there is ſtill extant between the antient *Babylon* and *Bagdad*, a vaſt rude ſtructure of brick; the bricks of which his friend Mr. *Allen* found to be one Foot long, eight Inches broad, and ſix Inches thick; he means Inches of the *Engliſh* Foot. Theſe proportions ſhew, that the bricks were regularly formed, and conſequently, that in the making of them regard was had to ſome particular meaſure uſed by the *Babylonians*, which was of great uſe, to enable the workmen from the number of bricks to determine immediately the dimenſions of the walls with reſpect to the length, breadth, and thickneſs, and *vice verſâ* to compute the number of the bricks neceſſary to the building of the wall agreed upon. As the *Babylonians* therefore meaſur'd their buildings by Cubits, it follows, that the bricks according to their length, breadth, and

(*c*) Pilgrimage, par. 1. lib. 1. c. 11.

thickneſs conjunctly muſt compoſe the meaſure of the Cubit. Now two bricks according to their length, three according to their breadth, and four according to their thickneſs, form the ſame meaſure; and conſequently the meaſure is that of a Cubit. A *Babylonian* Cubit is therefore equal to two *Engliſh* Feet; and the component parts intimate the diviſion of this Cubit into ſix *Palms*, ſo that the dimenſions of the bricks may be expreſs'd in round numbers of *Palms*; the length by 3 *Palms*, the breadth by 2, and the thickneſs by 1½. This Cubit may perhaps be determined hereafter with more exactneſs by a greater variety of obſervations.

The magnitude of the *Perſian Cubit*, I think, may be determin'd from their *Paraſanga*. For it is to be conſidered, that the greater meaſures, which exceeded the human members, us'd to be deduced from the leſſer by multiplication, in which multiplication the *denary* and ſometimes the *binary* numbers were employ'd. Thus the *Roman* (*d*) *Calamus* or *Pertica* conſiſted of ten Feet; the *Scrupulum* of ten Feet in length, and ten in breadth; the *Verſus* of an hundred Feet in length, and an hundred in breadth; the *Clima* (a meaſure deriv'd from the *Greeks*, as the name ſhews) of ten *Orgyiæ* in length, and

(*d*) Vide Hygin. de Limitib. conſtituend. & Siculum Flaccum de Condit. Agrorum.

ten

ten in breadth; the *Actus* of two *Climata* in length, and two in breadth; the *Jugerum* of two ſquare *Actus* in length; the *Decumanus* of ten *Actus* in length, and ten in breadth; the *Centuria* of ten *Decumani* in length, and ten in breadth, within *Italy*; but without, of twice that number; the *Saltus* of an hundred *Decumani* in length, and an hundred in breadth; the *Milliare*, or Mile, of a thouſand *Paſſus* in length; and the *Iter Diei*, or *Day's Journey*, of twice ten *Milliaria*. The *Greek* Reed, call'd Ἀκαινα, conſiſted of ten Feet; the *Clima* of ten Feet in length, and ten in breadth; the *Plethrum* of an hundred Feet in length and breadth; the *Stadium* of an hundred *Orgyiæ* in length; and the *Iter Diei*, according to *Herodotus*, of two hundred *Stadia*. And in the province of *Cyrene*, in the lands which *Ptolemy* a *Greek* king of *Ægypt* left to the *Roman* people, the (*e*) *Plinthides* conſiſted of fifty *Limites* in length, and fifty in breadth; and each ſide of thoſe ſquare *Limites* were ten *Stadia*.

It appears alſo from ſeveral inſtances, that as the weſtern nations proceeded from the Foot multiplied by ten, ſo the eaſtern did from the Cubit multiplied in the ſame manner. Thus among the *Jews*, a nation us'd to the feeding of cattle, the *Kibrath Terræ*,

(*e*) Hygin. de Limit. conſtit.

or

or paſture-land, ſufficient, I think, for a flock under one ſhepherd, was determined by the ſpace of a thouſand Cubits, and a Sabbath-day's Journey by that of two thouſand Cubits. And thus among the *Ægyptians*, the *Aroura* conſiſted of an hundred Cubits in length, and an hundred in breadth. And becauſe the *Ægyptians* every year after the inundation of the *Nile* divided their lands into *Arouræ*, the Reed ought, for the greater expedition in meaſuring, to conſiſt of ten Cubits, that by the repetition of ten they might make an *Aroura*. And for the like reaſon the greater meaſures, into which thoſe lands were divided, ought to conſiſt of tens and hundreds of *Arouræ*.

The greater meaſures therefore of the antient nations conſiſted of the round numbers of thoſe leſſer meaſures from which they were derived; and conſequently the *Schœni* of the *Ægyptians* and other eaſtern nations, and the *Paraſangæ* of the *Perſians*, conſiſted of round numbers of Cubits. Now the leaſt *Schœnus* of the *Ægyptians*, by the teſtimony of *Artemidorus* and *Strabo*, was equal to thirty *Greek Stadia*; and the *Paraſanga*, by the teſtimony of *Herodotus*, *Xenophon*, *Heſychius*, *Suidas*, *Agathias*, and others cited by *Strabo*, was likewiſe equal to thirty *Stadia*; and the round number of Cubits, to which

which ſo many *Stadia* were equal, are ten thouſand. That *Schænus* therefore conſiſted of 10000 *Cubits* of *Memphis*, and the *Paraſanga* of as many *Perſian* Cubits; and 10000 of the Cubits of both kinds were equal to 30 *Stadia*.

The calculation of the *Ægyptian* Cubit is confirmed by the preſent Cubit of the *Ægyptians* uſed in the city of *Grand Cairo*, which Mr. *Greaves* found to be 1 $\frac{824}{1000}$ of the *Engliſh* Foot. This Cubit approaches nearer to the antient Cubit of *Memphis*, than to the leſſer Cubits of the *Greeks*, *Romans*, and *Arabians* who reigned in *Ægypt*; and therefore it ſeems to be derived from that of *Memphis*. But it is greater than that. And what wonder is it, that a meaſure ſhould be ſomewhat increaſed in the ſpace of above 3000 years? The meaſures of Feet and Cubits now far exceed the proportion of human members; and yet Mr. *Greaves* ſhews from the *Ægyptian* monuments, that the human ſtature was the ſame above 3000 years ago, as it is now. The meaſures therefore are increaſed, the reaſons of which may be aſſigned. The inſtruments, which uſe to be preſerved as ſtandards of meaſures, by contracting ruſt are increaſed. Iron beaten by the hammer may inſenſibly relax in a long ſpace of time. Artificers likewiſe, in making inſtru-

ments, chooſe to err in the exceſs of the materials; and when by filing they attain any meaſure, which they think ſufficient, they ſtop, knowing that they can ſoon correct that little exceſs by filing, if their maſter ſhould complain of it; but that they cannot remedy a defect. Let us ſuppoſe therefore, that all meaſures have increaſed by degrees, eſpecially in the firſt ages, when leſs care was taken of them; and the Cubit of *Memphis*, about the time of the *Roman* Empire, will be a mean between the antient and the modern Cubit, but will approach nearer to the modern. The antient Cubit was $1\frac{719}{1000}$ of the *Engliſh* Foot, and the modern is $1\frac{824}{1000}$ of the *Engliſh* Foot. The mean therefore between them will be about $1\frac{78}{100}$, or $1\frac{79}{100}$ of a Foot. Now 10000 of ſuch mean or middle Cubits make, as they ought, about 30 *Attic Stadia.*

The former calculation of the *Perſian* Cubit is confirmed by the *Ariſh*, or modern *Perſian* Cubit, which (being doubled, as I ſuppoſe) Mr. *Greaves* found by meaſuring to be $3\frac{197}{1000}$ of the *Engliſh* foot. If half of this was the ſimple Cubit, and it increaſed from the time of the *Greek* and *Roman* Empire after the manner of the Cubit of *Memphis*, it muſt antiently have been about $1\frac{17}{100}$ of the *Engliſh* Foot. *Herodotus* ſtiles this Cubit, compared

compared with the Cubits of the *Greeks* and neighbouring nations, the *middling Cubit*; and tells us, that the royal *Perſian* Cubit was larger than it by 3 Digits. If we underſtand by them, Digits of the middling Cubit, which was more known to the *Greeks*, the royal Cubit will be to the middling Cubit as 27 to 24; and ſince the middling Cubit is $1\frac{17}{100}$ of the *Engliſh* Foot, the royal Cubit will be about $1\frac{676}{1000}\frac{1}{4}$. Now 10000 of ſuch Cubits make, as they ought, about 30 *Attic Stadia*.

The preceding computations are likewiſe confirm'd by a certain general reaſon, by comparing the Feet and Cubits uſed at firſt in every nation according to the proportion of the members of a man, from which they were taken. For the Foot of a man is to the *Cubit* or lower part of the Arm of the ſame man as about 5 to 9, as I my ſelf have meaſur'd, and any perſon may eaſily find by his own body. And the oldeſt Feet, of which any account has been tranſmitted to us, are the *Roman*, the *Ptolemaic*, and the *Druſian* Foot at *Tongeren* in *Germany*, the laſt of which is equal to $13\frac{1}{2}$ *Unciæ* of the *Roman* Foot. And to theſe three Feet, according to the proportion of 5 to 9, anſwer the three Cubits, $1\frac{7406}{10000}$ of the *Engliſh* Foot, $1\frac{8016}{10000}$ of the *Engliſh* Foot, and $1\frac{9228}{10000}$ of the *Engliſh* Foot; and of about theſe

theſe magnitudes are the antient Cubits determined by us above, *viz.* thoſe of *Memphis*, *Babylon*, and *Perſia*; to which add that of *Samos*, which *Herodotus* repreſents as equal to the Cubit of *Memphis*. The *Greek* and *Roman* Cubits, which were ſecondary meaſures, adapted to the meaſures of the Feet before received, ought not to come under conſideration here.

The Cubits of the Eaſtern Nations, with which the *Jews* were ſurrounded, being determined in this manner, we may from hence form a conjecture concerning the magnitude of the *Jewiſh* Cubit. The vulgar *Jewiſh* Cubit ought not to be greater than them all, nor the ſacred Cubit leſs than them all. The opinion of *Villalpandus* and others therefore is to be rejected, who repreſent the vulgar Cubit as equal to two *Roman* Feet and an half; and I think them likewiſe miſtaken, who make the ſacred Cubit and *Attic* Cubit equal. That the ſacred Cubit was very large, appears from the *Jewiſh Calamus* or Reed, which contained but ſix of theſe Cubits; and from the antiquity of this Cubit, ſince *Noah* meaſured the Ark with it. However, it is not to be magnified in ſuch a manner, that the vulgar Cubit (which in the time of *Moſes* was called the *Cubit of a man*, *Deut.* iii. 11.) ſhould

ſhould much exceed the Cubit of a tall man. But we ſhall circumſcribe theſe Cubits in narrower limits in the following manner.

We learn from the *Talmudiſts* and *Joſephus*, that the *Jews* uſed the meaſure of four ſacred *Palms* inſtead of the *Greek* Cubit. The *Greek* Cubit therefore approached nearer to 4 *Jewiſh Palms* than to 5 or 3; that is, it was leſs than 4½ *Palms*, and greater than 3½. Hence it follows, that the ſacred Cubit of 6 Palms was leſs than 2 ½ *Attic* Feet, and greater than 2 *Attic* Feet.

The ſtature of the human body, according to the *Talmudiſts* (*f*), contains about 3 Cubits from the feet to the head; and if the feet be raiſed, and the arms be lifted up, it will add one Cubit more, and contain 4 Cubits. Now the ordinary ſtature of men, when they are bare-foot, is greater than 5 *Roman* Feet, and leſs than 6 *Roman* Feet, and may be beſt fix'd at 5 Feet and an half. Take the third part of this, and the vulgar Cubit will be more than 20 *Unciæ*, and leſs than 24 *Unciæ* of the *Roman* Foot; and conſequently the ſacred Cubit will be more than 24 *Unciæ*, and leſs than than 28 ½ *Unciæ* of the ſame Foot.

Joſephus writes, that the Pillars of the great court were as large as could be em-

(*f*) This proportion is expreſly ſet down in *Miſhnaioth*, Tract. de *Ghaburim*, cap. 4. ה in Comment.

braced by three men with their arms join'd. The *Orgyia* or Fathom of a man is commonly ſuppoſed equal to the ſtature of the ſame man, but in reality exceeds it about one Palm of the *Roman* Foot. The common people uſe the neareſt round numbers; in this caſe the true numbers are to be employed; add therefore a Palm to the meaſures of the ſtature of a man above expreſs'd, and the ſum being tripled, 15 $\frac{1}{4}$ *Roman* Feet will be greater, and 18 $\frac{1}{4}$ leſs than the circumference of the pillar.

Now that circumference, according to the *Talmudiſts* and *Joſephus*, was, as above, 8 Cubits, at leaſt in the inner court. Taking therefore about an eighth part of the preceding numbers, the ſacred Cubit will be greater than two *Roman* Feet, and leſs than two and a third. We have taken here the pillars of both courts, that is, in thickneſs, tho' not in height. It is certain, that the pillars of the inner court were not thicker than thoſe of the outer court; and therefore the latter computation muſt neceſſarily be admitted.

A Sabbath-day's journey, by the unanimous conſent of the *Talmudiſts* and all the *Jews*, was two thouſand Cubits. Hence the *Chaldee* interpreter upon *Ruth* i. 6. ſays, "We are commanded to obſerve the Sabbath and good days, ſo as not to go above

"two

" two thouſand Cubits." The *Jews* deſcribing this journey, inſtead of Cubits, ſometimes ſubſtitute Paces. *Eraſmus*, in his notes upon *Acts* i. 12. writes thus concerning the Sabbath-day's Journey: *The Evangeliſt means the ſpace of two thouſand Paces. It was not lawful for the* Jews *to travel farther on the Sabbath-day. This is aſſerted by St.* Jerome, *writing to* Algaſia, *in his tenth queſtion*, viz. *that the* Jews *religiouſly obſerved not to walk on the Sabbath-day above two thouſand Paces, agreeably to the apointment of* Akiba, Simeon [*the Juſt*] *and* Hillel, *Rabbins, whom they uſe to call our maſters.* Thus writes *Eraſmus*, who reads *paſſus* in St. *Jerome*, and not *pedes*, as it is corruptly in the printed editions of that father. And hence in *Numb.* xxxv. 4. inſtead of *a thouſand Cubits*, the *Latin* interpreter ſubſtitutes *a thouſand Paces.* But we muſt take care not to underſtand by them the *Roman* or *Greek* Paces; for in *Sebbolch Lecheth*, *Tract.* 22. *cap. de Sabbat.* thoſe Paces are thus deſcribed: Samuel *travell'd thro' the valley, and knew not the limit of the Sabbath. A Sabbath-day's journey is two thouſand middling Paces.* As if he had ſaid, a Sabbath-day's journey is a journey of two thouſand paces of a man travelling upon a ſabbath, not with ſpeed, as in the *Roman* Paces, nor too ſlowly, but

moderately, in the manner of thoſe who travel on the ſabbath-day. Now men of a middling ſtature, in walking in this manner, go every ſtep more than two *Roman* Feet, and leſs than two and a third. And within theſe limits was the ſacred Cubit circumſcribed.

The *Talmudiſts* write, that the height of the ſteps, by which they aſcended to the inner court, was half a Cubit, and their retractions half a Cubit. They mean the ſacred Cubit; and we ſee that *Joſephus*'s computation, with regard to the height of theſe ſteps, correſponds with them. Now *Vitruvius* determines, that the height of ſteps ought not to be more than 10 *Roman Unciæ*, and the retractions not leſs than 18 *Unciæ*; whence, ſince the *Jews* make the height equal to the retractions, we muſt ſuppoſe that they took a middle proportion, and that the height, as well as the retractions, made about 12, or at moſt 13 *Roman Unciæ*. The middle proportion between 10 and 18 is about 13 $\frac{1}{2}$. And I ſhould be inclined to maintain, that this height was not at all exceeded, leſt it might have been difficult to aſcend the ſteps. The ſacred Cubit therefore was leſs than 27 *Roman Unciæ*, but not leſs than 24 *Unciæ*, in order that the retractions of the ſteps might not be too much leſſen'd. The

The Cubit being thus circumſcribed within certain limits, and the erroneous opinions of other writers being thus refuted, we may now aſſign the more exact meaſure of it with greater aſſurance; and this we ſhall do by the following argument.

It is agreeable to reaſon to ſuppoſe, that the *Jews*, when they paſſed out of *Chaldea*, carried with them into *Syria* the Cubit which they had received from their anceſtors. This is confirmed both by the dimenſions of *Noah*'s ark preſerv'd by tradition in this Cubit, and by the agreement of this Cubit with the two Cubits, which the *Talmudiſts* ſay were engrav'd on the ſides of the city *Suſan* during the empire of the *Perſians*, and that one of them exceeded the ſacred Cubit half a Digit, the other a whole Digit. *Suſan* was a city of *Babylon*, and conſequently theſe Cubits were *Chaldaic*. We may conceive one of them to be the Cubit of the royal city *Suſan*, the other that of the city of *Babylon*. The ſacred Cubit therefore agreed with the Cubits of divers provinces of *Babylon* as far as they agreed with each other; and the difference was ſo ſmall, that all of them might be derived in different countries from the ſame primitive Cubit, the *Jewiſh* Cubit being leſs inlarged after ſacred things began to be determined by it. This

thereſore was the proper and principal Cubit of the *Jews*. But that people afterwards going down into *Ægypt*, and living for above two hundred years under the dominion of the *Ægyptians*, and endurging an hard ſervice under them, eſpecially in building, where the meaſures came daily under conſideration; they muſt neceſſarily learn the *Ægyptian* cubit. Hence came the double Cubit of the *Jews*, viz. that of their own country, and the adventitious one, which, from its being uſed upon ordinary occaſions only, was eſteemed vulgar and profane. This hypotheſis is confirmed by the proportion of the Cubits to each other. For the *Babylonian* Cubit of two *Engliſh* Feet is to the Cubit of *Memphis* of 1 $\frac{719}{1000}$ of the *Engliſh* Foot, as 6 to 5 $\frac{157}{1000}$, that is, as the ſacred Cubit to the vulgar Cubit very near. The ſmall fraction of $\frac{157}{1000}$ might ariſe from either the difference of the *Babylonian* Cubits, or the greater antiquity of the *Babylonian* building, than of the pyramid, or the dimenſion of the brick, expreſſed not in the exact, but the neareſt round numbers.

Suppoſe the thickneſs of the brick to be 6 $\frac{3}{16}$ *Engliſh* inches, the breadth 8 $\frac{1}{4}$ inches, and the length 12 $\frac{1}{8}$ inches; and a Cubit double that length will be to the Cubit of *Memphis* as 6 to 5. I am inclined therefore

to

to think, that the Cubit of *Memphis*, at the time when the *Jews* went down into *Ægypt*, was equal to 5 *Palms* of the *Chaldæo-Hebraic* Cubit; and that the *Jews* thus determining the magnitude of that Cubit by five *Palms* of the proper Cubit, the *Palms* of *Memphis* became at laſt neglected, and the double Cubit, with only a ſimple *Palm*, remained among the *Jews*. Beſides, as it is reaſonable to ſuppoſe, that the profane and adventitious Cubit agreed with the Cubits of the nations round about, viz. thoſe of *Memphis*, *Samos*, and *Perſia*; ſo it appears from the following argument, that this Cubit was the ſame with that of *Memphis*. The different meaſures of the Cubit of *Memphis*, taken from different parts of the Pyramid, were 1 $\frac{717}{1000}$, 1 $\frac{719}{1000}$, and 1 $\frac{732}{1000}$ of the *Engliſh* Foot. To theſe meaſures in the proportion of the ſacred Cubit to the vulgar *Jewiſh* Cubit are the meaſures 2 $\frac{604}{10000}$, 2 $\frac{618}{10000}$, and 2 $\frac{784}{10000}$ of the *Engliſh* Foot, which in *Unciæ* of the *Roman* Foot are 25 $\frac{17}{100}$, 25 $\frac{62}{100}$, and 25 $\frac{79}{100}$, and conſequently fall in the middle of thoſe limits, with which we have before circumſcribed the ſacred Cubit, and which were 24 and 27 *Unciæ* of the *Roman* Foot. Thus therefore, by means of theſe limits, thoſe meaſures agree with the ſacred Cubit, and conſequently the meaſures of the Cubit of

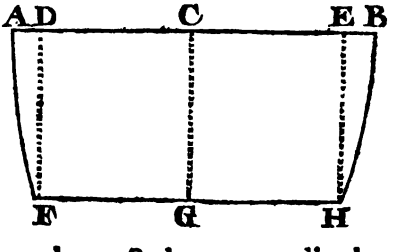
Memphis agree with the vulgar Cubit. Suppoſing therefore that the *Jews* learned the Cubit of *Memphis* in *Ægypt*, and that it was their vulgar Cubit, and conſequently that in the time of *Moſes*, and ſoon after, when, as Mr. *Greaves* contends, the Pyramids were built, the vulgar Cubit was of the ſame magnitude with that of *Memphis*; the ſacred Cubit in thoſe times was not leſs then 25 $\frac{17}{100}$, nor greater than 25 $\frac{79}{100}$ *Unciæ* of the *Roman* Foot. Thoſe, who ſhall hereafter examine the Pyramid, by meaſuring and comparing together with great accuracy more dimenſions of the ſtones in it, will be able to determine with greater exactneſs the true meaſure of the Cubit of *Memphis*, and from thence likewiſe of the ſacred Cubit. In the mean time for the preciſe determination of the Cubit of *Memphis*, I ſhould chooſe to pitch upon the length of the chamber in the middle of the Pyramid, where the king's monument ſtood, being very large, and built with admirable skill; which length was the twentieth part of the length of the whole Pyramid, and contained 20 Cubits, and which was very carefully meaſured by Mr. *Greaves*, as he informs us himſelf. And from hence I would infer, that the ſacred Cubit of *Moſes* was equal to 25 *Unciæ* of the *Roman* Foot, and $\frac{4}{10}$ of an *Uncia*; or, what

what is equivalent, that it had the ſame proportion to two *Roman* Feet as 16 to 15.

Merſennus in his treatiſe *de Menſuris, Prop.* 1. *Cor.* 4. writes thus: *I find that the Cubit, (upon which a learned* Jewiſh *writer, which I received by the favour of the illuſtrious* Hugenius, *Knight of the order of St. Michael, ſuppoſes the dimenſions of the temple were formed,) anſwers to* 23 $\frac{1}{4}$ *of our inches, ſo that it wants* $\frac{1}{4}$ *of an inch of two of our Feet, and contains two* Roman *Feet, and two Digits and a Grain, which is* $\frac{1}{4}$ *of a Digit.* The *Paris* Foot, with which *Merſennus* compared this Cubit, is equal to 1 $\frac{68}{1000}$ of the *Engliſh* Foot, according to Mr. *Greaves*; and conſequently is to the *Roman* Foot as 1068 to 967. In the ſame proportion reciprocally are 23 $\frac{1}{4}$ and 25 $\frac{68}{100}$. That Cubit therefore is equal to 25 $\frac{68}{100}$ *Unciæ* of the *Roman* Foot, and conſequently falls within the middle of the limits 25 $\frac{17}{100}$ and 25 $\frac{79}{100}$, with which we have juſt circumſcribed the ſacred Cubit; ſo that I ſuſpect this Cubit was taken from ſome authentic model preſerved in a ſecret manner from the knowledge of the Chriſtians. Leſt any perſon ſhould be ſurprized, that the Cubit, which we have concluded to have been in the time of *Moſes* 25 $\frac{60}{100}$ inches, ſhould not have increaſed more in three thouſand years; he may obſerve, that the *Palms* uſed

uſed in building at *Rome*, which was antiently 9 *Unciæ* of the *Roman* Foot, is now equal to $\frac{738}{1000}$ parts of the *Engliſh* Foot, that is, 9 $\frac{1}{12}$ *Unciæ*, and conſequently that in fifteen hundred years it has increaſed but $\frac{1}{12}$ of an *Uncia*, though it was not preſerved in a religious manner.

Some compute the Cubit from *Solomon*'s brazen ſea. Leſt any objection ſhould be raiſed from thence, I ſhall briefly remark, that the bottom of that ſea ought not to be repreſented ſpherical, as it generally is, but flat, in ſuch a manner that all the water might run out for the uſe of the prieſts, and the veſſel might ſtand commodiouſly upon the backs of the oxen, and the oxen not hinder the prieſts from coming to the cocks. However I would not repreſent it under a cylindrical figure. The following one will be more beautiful. Let the line *A B*, of ten Cubits, be biſected in *C*; and taking upon it *A D*, *E B*, of a Cubit each, erect the perpendiculars *D F*, *C G*, *E H*, each of them of five Cubits, and with the ſemiaxes *A D*, *D F*, and *B E*, *E H*, deſcribe the quadrants of the ellipſes



ellipſes *A F*, *B H*, and drawing the right line *F H*, the figure *A F G H B* convolved round the axis *C G*, will deſcribe the external ſuperficies of the veſſel, whoſe cavity, if it be an hand-breadth thick, will contain about thouſand baths, ſuppoſing that a bath was equal to twelve *Roman Congii* (as *Agricola* and others maintain) and that ſeven *Congii* and an half will fill a Cubic *Roman* Foot, as Mr. *Greaves* found by the *Farneſian Congius*. It is ſaid likewiſe, that this ſea contained three thouſand baths; whence ſome affirm, that there were two kinds of baths. Others underſtand a dry meaſure, whoſe *Cumulus* equaled half the contents; others ſuſpect a various reading; others imagine, that the ſea contained two thouſand baths for daily uſe, but, when full, could receive three thouſand baths. I ſhall not atttempt to determine the diſpute.

This is what I thought proper to lay down at preſent with regard to the magnitude of this Cubit. Hereafter perhaps thoſe, who ſhall view the ſacred mount, and the monuments of the *Chaldeans*, by taking accurately the various dimenſions of the ſtones, bricks, foundations, and walls, and comparing them together, will diſcover ſomething more certain and exact.

The

The *Roman* Cubit therefore conſiſts of 18 *Unciæ*, and the ſacred Cubit of 25 $\frac{1}{5}$ *Unciæ* of the *Roman* Foot; and conſequently thoſe Cubits are to each other in round numbers as 2 to 3 very near. And this proportion is uſed by *Joſephus*, out of regard to the greater expedition in computing the bulk of the buildings. For writing to the *Romans* (*g*), he every where puts three *Roman* Cubits for about two ſacred Cubits, except in ſome of the moſt eminent dimenſions of the temple, properly ſo called, and ſet down in ſcripture, in which caſe he thought proper to retain the ſacred Cubit. This will appear by comparing the Cubits of *Joſephus* with the ſacred Cubits of the *Talmudiſts*, in the following table.

	Joſephus's Cubits.	Sacred Cubit.	*Talmud* Cubits.	*Vulgar* Cubits.
The height of the wall *Chajil* { without	40	$26\frac{2}{3}$		
{ within	25	$16\frac{2}{3}$		
Difference anſwering to the 19 ſteps —	15	10		
Height of thoſe 19 ſteps — —	15	10	$9\frac{1}{3}$	
Height of the *Septum cancellatum* —	3	2		2
Height } of the gates — — —	30	20	20	
Breadth }	15	10	10	
Height of the altar — — —	15	10	10	
Breadth of the altar — — —	50	$33\frac{1}{3}$	32	
Height of the temple within — —	60	40	40	
Circumference of the pillars — — —	12	8	8	

(*g*) Joſephus in Prologo Belli Judaici.

Thus

Thus likewiſe, where *Joſephus* in a round number makes the *Exhedras* thirty Cubits, we muſt write twenty ſacred Cubits, or more exactly twenty two; and the like reduction is neceſſary in all the other numbers of *Joſephus*.

LETTERS

BETWEEN

Mr. JOHN GREAVES and ſeveral Learned and Eminent Perſons.

The greateſt part of which were never before publiſhed.

Mr. *Greaves* from *Conſtantinople.*

SIR, *Auguſt* 2, 1638.

Received your letters of *Feb.* 26, about the midſt of *July*, and with thoſe the expectation of *Clemens*, with the *Catena* upon *Job*. Both which, according to his Grace's inſtruction, I ſhould have preſented to the Patriarch, with all obſervance and reſpect, if his death had not prevented the delivery. Upon the 27th of *June*, by expreſs command from the Grand Segnior, he was as a traytor ſtrangled,

led, and his body thrown into the ſea; it being pretended, that he had ſent letters to the emperor of *Muſcovia*, by means whereof ſome two years ſince the *Muſcovite* ſurprized a town upon the Black Sea belonging to the *Turk*. His accuſers were men of his own coat, *Greek* biſhops (bred up under the *Jeſuites*) whereof *Bereas*, one of the chief of them hath ſucceeded in his place; who, that it may appear whoſe diſciple he hath been, hath made ſuch a combuſtion in the *Greek* church, that I think the like hath ſeldom been. For beſides the anathematizing of * for being a *Lutheran*, he hath put in priſon, and partly in chains, above fifty biſhops and prieſts of his followers and adherents, whereof ſome he hath ſtrangled.

The *Dutch* embaſſador hath been called in queſtion by him before their Divan, to have received from the church two hundred thouſand crowns in the time of former diſſenſions, beſides ſtore of MSS. belonging to the Patriarch. I myſelf might have fallen into the ſame danger, if by the mediation of ſome *Greeks* of my acquaintance I had not prevented the ſtorm. For having procured out of a blind and ignorant monaſtery, which depends upon the Patriarch, fourteen good

* The word here in the original is quite effaced.

MSS.

MSS. of the fathers, I was compelled privately to reſtore the books, and loſe my money, for fear of a worſe inconvenience. Yet if *Cyril* had lived a little longer, I might have ſent to my Lord's Grace, not only theſe, but many other choice copies. For my purpoſe was to have gone to mount *Athos*, being from thence four days journey by ſea, whither I ſhould have been recommended by the Patriarch, and have had liberty of entring into all the libraries in that place, to have collected a catalogue of ſuch books as either were not printed, or elſe by the help of ſome there might have been more correctly ſet out. Theſe (by diſpenſing with the Anathema's which former Patriarchs have laid upon all *Greek* libraries, thereby to preſerve the books from the *Latins*) the Patriarch purpoſed to have preſented to his Grace, for the better proſecution of his Grace's honourable deſigns in the edition of *Greek* authors. But the ſame hand which took away the Patriarch's life, ſpoiled my endeavours (the beſt that I can ever hope for) of ſerving his Grace in this particular. Though I preſume in *Arabic* books my Lord hath received a remonſtrance of my care, by thoſe which the companies have ſent from thence. It is true, many more very choice ones might be procured with enquiry, and watching after opportu-

nities,

nities, if they would give the price. Some few of thoſe, which they thought to be over-valued, I have purchaſed at exceſſive rates. You may wonder how I have been able to do it, ſince the city of *London* hath failed me in my expectations of their contributions towards mathematical inſtruments. I have been neceſſitated to ſell moſt of the books I brought with me. But the love and care of my brothers, ſtraining their own occaſions to ſupply mine, have enabled me, in deſpite of the city, to go on with my deſigns. You may therefore hope to ſee moſt of the *Greek* Mathematicians, tranſlated into *Arabic*, brought home. Amongſt others, I have procured *Ptolemy*'s *Almageſt*, the faireſt book that I have ever ſeen, ſtoln by a Spahy (as I am informed) out of the King's Library in the *Seraglio*. Whereby you ſee there is a poſſibility of having alſo thoſe *Greek* and *Latin* authors (which I mentioned in my former letters, to be buried in the Seraglio) if the * were handſomely followed by an ambaſſador. My purpoſes, I hope, ſhortly I ſhall put in execution, being this month to go with the * for *Egypt*. The eclipſe of the moon in *December* next will be obſerved (if it pleaſe God) at *Bagdad*, *Conſtantinople*, *Smyrna*, and *Alexandria*; all

* Effaced, as before.

which places I have furniſhed with convenient inſtruments, and given them inſtructions according to *Tycho Brahe*'s, how they ſhould obſerve. I preſume at *Bagdad* it will be punctually and carefully done, ſince the Phyſician to the King's favourite, a Chriſtian, hath undertaken the buſineſs, who hopes to get reputation by doing it in the ſight of the Grand Seignior and of his army. I doubt not, it will be as carefully obſerved in *England*, and could wiſh, (as by my letters I earneſtly deſired) that at the ſame time obſervations might be made at the *Azôres*. Sir, I grow tedious, and therefore will only kiſs your hands, thanking you for many former favours to me. And tho' in theſe particulars I preſume I ſhall give my friends ſatisfaction, yet have I not ſatisfied myſelf, in that I have not as yet, though after diligent enquiry, found any opportunity of performing your worthy deſigns. I ſhall endeavour ſo much the more, both in *Egypt* and in *Italy*, to give you a remonſtrance of my care of your inſtructions, by how much your many favours, and in particular your late recommendations of me to his Grace, have made me

Your affectionate Friend to ſerve you,

From *Conſtantinople*, *Aug.* 2, 1638. JOHN GREAVES.

Clariſſimo Doctiſſimoque Viro

Dom. JOANNI GRAVIO,

Dom. mihi plurimum colendo.

QUOD diutiſſimè optaveram, ut aliquid nimirùm de doctiſſimo æquè ac humaniſſimo D. *Gravio* intelligerem, id demùm felici mihi fato contigit heſterna die, dum Venetiis revertenti obtulit mihi fortuna in eâdem navi nobilem Anglum, qui me de tui itineris ab Oriente in patriam incolumitate certiorem faceret. Propterea impetum animi vix poteram ſuſtinere, qui, ut ſemper meritorum tuorum memoriam egregiè coluit, ita de hac tua felicitate tecum per literas gratulari mirificè avebat. Sed craſtinus, ut intelligo, ſtudioſi Angli hinc in patriam diſceſſus voto favet, cui hæ literæ commendabuntur, mei in te perpetui obſequii memoriam, ut opto, renovaturæ. Tuarum epiſtolarum, quæ ad me pervenerint, omnium poſtrema fuit, quam Liburni ſcripſiſti properans Conſtantinopolim: ea ut humanitatis & officii plena erat, ita etiam alia benevolentiæ tuæ argumenta, quæ ſcribis, ſecum attuliſſet, (libros nempè nonnullos Mathe-

maticos) niſi ſors, quæ aliàs arriſit, hanc mihi felicitatem invidiſſet: nolo enim amici noſtri negligentiæ imputare, quod caſui adſcribendum cenſeo. Gratias ergo quas poſſum maximas benignitati tuæ ago; pares etiam, ſi unquam valerem, libentiſſimè relaturus. Quoniam verò non injucundum tibi fore exiſtimo, ſi aliquid hîc de amicorum noſtrorum & academiæ ſtatu poſt tuum ab hac urbe diſceſſum addidero, pauca ſubnectam. Poſt Guidii philoſophi primarii interitum, *Cottonius* (proh quàm diſſimilis!) in ejus ſedem evectus eſt; *Licetus*que, veluti facinus averſatus, ad academiam Bononienſem migravit. *Soncinus* noſter ad primam Medicinæ Practicæ ſedem *Piſis* tranſivit, quò etiam conceſſit *Bartholomæus Vecchius* à ſuo principe naturali magno Duce Hetruriæ accitus. Et his luminibus orbatum Gymnaſium, ulla nondum aliunde petita inſigni harum diſciplinarum face illuſtratur. *Angelus* poſt editionem libri de Diebus Criticis & novarum Ephemeridum ab anno 1630 ad 1680, nihil, quod ſciam, molitur. Has Reipublicæ Venetæ dedicavit, aureo torque 200 ducatorum pretium æquante donatus, & Equeſtri inſuper auctus dignitate. *Rhodius* ob contractam ex ictu femorum imbecillitatem aëris injurias veritus in cubiculo perpetuò deliteſcit, Scribonium ſuum quotidianam

dianam veluti molam verſans. *Urſatus* denique noſter optimé valet, non amplius in hæmorrhagia illâ ſua ſiſtendâ, ſed in ſobole procurandâ ſollicitus. Ego verò otii urbis meæ pertæſus, alteram veluti mihi patriam elegi Patavium, opportunâ mihi in academia Delia nobilium Patavinorum oblatâ occaſione ſtudia mea promovendi, qui honorem Mathematicas apud ipſos profitendi publicè detulerunt. Hic eſt rerum noſtrarum ſtatus, quem ideo tibi nunciare volui, ut longiori te epiſtola alloquerer, atque adeo ut omiſſæ jampridem conſuetudinis noſtræ ſuavitate diutiùs fruerer. Cæterùm, Vir præclariſſime, hoc tibi perſuadeas velim, nihil mihi in vita jucundiùs contingere poſſe, quàm ſi tibi inſerviendi aliqua eaque frequens occaſio detur, quemadmodum inter quotidianos ſermones nihil ſuaviùs experior laudibus clariſſimi D. GRAVII mei, cujus virtutum fama his in locis ſemper viguit, ſemperque vigebit. Vale, & ſi quid novi iſtic emerſerit, id nobis, rogo, communicare ne dedigneris.

Virtuti atque Humanitati tuæ
Devinctiſſimus,
ANDREAS MORETTUS.

Patavii pridie Kal. Martias, St. nov. Ann. 1641.

Clariſſimo Doctiſſimoque Viro

Dom. CLAUDIO HARDY.

QUatuor anni elapſi ſunt, Vir Clariſſime, ex quo propter longinquam peregrinationem à me in Orientem ſuſceptam, nulla mihi opportunitas data eſt, affectum ſincerumque tibi animum teſtandi. Tandem, favente Numine, ſalvo & incolumi reverſo conceditur nonnihil otii, & de periculis præteritis & de amicis veteribus cogitandi. Inter quos, ſi rectè de humanitate ſtudiiſque tuis judico, nemo erit qui de reditu meo majori, quam tu, lætitiâ afficiatur. Eaque tanto erit accumulatior, cum intellexeris iter tam periculoſum non ob alias cauſas initum, niſi ut linguis Orientalibus & ſtudiis Aſtronomicis peregrè felicius incumberem, in quibus utriſque quantum profeceris, eruditis tuis ſcriptis, literatis omnibus ſatis comprobâſti. Quapropter breviter, ſtrictimque, ubi commoratus ſum, quid præſtiterim, & quos libros mecum adduxerim, pro veteri amicitia tibi indicabo. Primum annum Conſtantinopoli egi, ut me totum linguæ Arabicæ addicerem;

rem; ſed ſpe falſus, idoneis deſtitutus magiſtris, ad alias curas animum induxi, eumque diligenti librorum MSS. diſquiſitioni applicui. Quo quidem in genere non pœnitendam operam locavi. Nam præter varios codices Arabicos, Perſicos, Turcicos, propemodum de univerſis ſcientiis ſcriptos, & præter Lexica melioris notæ tribus hiſce linguis deſervientia, coëmi inſuper penè omnes antiquos Mathematicos Græcos in idioma Arabicum ante aliquot ſæcula traductos, unà cum operibus præcipuè Aſtronomorum recentium, apud Arabes & Indos maximè inſignium. Inter verò illos antiquos non leviter gaudebo ad huc ſuperſtites reperiri quatuor libros *Apollonii Pergæi* Geometræ ſubtiliſſimi, ـئ ؏ ط ع الخطو ط عي النسس quorum *Pappus* aliique meminerunt. Conſtantinopoli cum claſſe Turcicâ ſolvi, eo anni tempore, quo ſolent, multis navigiis ſimul, pro more gentis, Alexandriam petere. Fretus ſatis proſperâ navigatione Rhodum appuli, ubi, proper autoritatem Poſidonii, clanculum in ſubmœnianis Chriſtianorum hortis altitudinem ſolis ſæpè obſervavi. Inde poſt ſex dies è portu diſcedens, octo dierum ſpatio, flantibus leniter Eteſiis, Alexandriam perveni; ubi corruptis Judæis, qui vectigalibus ibi præſunt, inſtrumenta mea Aſtronomica ſine periculo expoſui. Erant autem diverſa, ex

ære ut plurimum fabrefacta, & ab egregio artifice ſummâ cum diligentiâ conſtructa, quorum maximum quadrans erat totus æneus, radium obtinens ſeptem eorum pedum, qui apud Anglos veteri edicto regio uſurpantur. Alexandriæ ſex menſes continuos hæſi, ſoli ſtelliſque intentus, quoties per caligines aut pluvias licebat, quas illic, mediâ præcipuè hyeme, contra receptam opinionem, & crebras & violentas eſſe ſenſi. Laboribus & vigiliis defeſſus, relaxandi animi gratiâ bis Memphim petii, ſeu, ut rectiùs loquar, الثا هرة. Nam antiquâ Memphi orientalior eſt hodierna Elkahira ſeptem ad minimum millibus paſſuum. Inde ad ſepulchra veterum Ægyptiorum acceſſi, & cryptas illas ſubterraneas ſubii: poſt ad Pyramides me contuli, earumque juſtam magnitudinem, idoneis ad eam rem adjutus inſtrumentis, deprehendi; & multa illic, dum omnia curioſiùs perluſtro, nec à priſcis ſcriptoribus, nec à recentioribus, literis mandata, annotavi. Opera ſanè ſtupenda, & ab ipſis antiquis inter orbis miracula meritò judicata, ſed à nemine, quod ſciam, pro eorum dignitate ſatis deſcripta. Interiorem cameram & nonnulla ſecretiora adyta, temporis injuriâ nondum corrupta, nec unquam, ſi recte judico, corrumpenda, menſuris Anglicis diligenter menſus ſum, adeò exactè, ut e viginti mille partibus,

in

in quas viginti pedes, lineis tranſverſis, ſive potius diagoniis diviſi, ne unam quidem vel deeſſe vel ſupereſſe, exiſtimem. Quod ideò tanto accuratiùs præſtiti, ut ex iſta comparatione omnium gentium menſuræ, quæ hodie ſunt, aut olim fuerunt, è duraturo aliquo monumento poſteris ſignari poſſint. Quod quidem ſi à Mathematicis olim præſtitum fuiſſet ſelectis aliquibus idoneis locis, temporum injuriæ non obnoxiis, minùs hodie incerti eſſemus in antiquorum menſuris inveſtigandis. Quid de meo conſilio cenſendum ſit, eruditorum judicio permitto; me certè neque propoſiti neque laboris ſuſcepti pœnitet. Te verò, Vir clariſſime, inter alios præcipuè oro & obteſtor, ut pondera & menſuras Gallicas ſummâ diligentiâ cum archetypis collatas, & regio ſigillo, ut fieri aſſolet, munitas ad me tranſmittas; & ſiqua numiſmata, vaſa priſca, vel pedes vetuſti, ab hæredibus nobiliſſimi viri D. *Pereſcii* recuperari poſſint, meo ære compares. Multum ille in hac palæſtrâ deſudavit; & quantum ex literis ipſius licet conjicere, ſi peperiſſet quæ tam diù parturivit, omnium induſtriam & conatus facilè ſuperâſſet. Ipſe dum peregrè agebam, tanquam itineris πάρεργον, Arabum, Perſarum, Turcarum, Italorum, Hiſpanorum, Germanorum, varia & diverſa pondera & menſuras meis oculis manibuſque

que ſubjeci, & cum Anglicis ſedulò & fideliter contuli. Idem & de Gallicis in animum induxiſſem, ſi per Pariſios domum redire contigiſſet. Sed ſpe fruſtratus, iſtam tibi tuæque diligentiæ provinciam demando. Tu me interea eâdem benevolentiâ proſequeris, quâ ſolebas; & ſi quid, quod mihi adjumento eſſe poſſit, repereris, viro doctiſſimo meique amantiſſimo, D. *Dorrel* in ædibus oratoris Angli committes. Vale.

Londini, 18 *Kal. Jun.*
1641.

Tibi addictiſſimus

JOANNES GRAVIUS.

Eruditiſſimo Domino

Dom. JOANNI GRAVIO,
Londinum.

DUbium eſſe tibi potuiſſe non exiſtimo, quin de tuo reditu in Europam maximum perciperem gaudium, Vir Eruditiſſime, pro eo affectu quo te colui, cum apud nos degeres.

degeres. Sed nihil addi potuiſſe facile reputabis, cum his libris inſtructus revertaris ad tuos, quorum literis tuis humaniſſimis atque politiſſimis mentionem feciſti. Indicem deeſſe queſti ſunt, quotquot illas typis excuſas legerunt, ſatis magno numero neque vulgaris literaturæ, neque dignationis, uti ſibi tibique de tam auſpicato ſtudiis Orientalium linguarum & Matheſeos itinere gratulari poſſent. Adhortor itaque te atque obteſtor, uti pleniùs ex catalogo cognoſcere liceat theſaurum, quem poſt tot viarum diſcrimina atque tempeſtatum in Britanniam tuam aſportâſti. Hunc theſaurum ne animum tuum inducas occultum habere, tibique ſervare ſoli, quo in genere plerique nimio ſtudio ſibi ſuæque diligentiæ exitiabiliter peccant. Mitto ad te, ut ſignificâſti, libræ Gallicæ ſive ponderis regii quadrantem, id eſt, dimidiam marcam, vel quatuor uncias, qualium libra integra conſtituitur ſexdecim, probatum ad pondus officinæ regiæ monetariæ, atque adeo publica nota inſignitum. Accipies quoque dimidium pedem Pariſienſem Regium dictum, ad archetypum, qui in Capitolio Pariſienſi aſſervatur, inſpectante diligentiſſimè exactum, ſed publica nota non ſignatum, quod ea forma ſignari publicus menſurarum cuſtos negaverit. Advertes ſemipedis hujus longitudinem extremis lineis tranſverſis non totius regulæ magnitudine

magnitudine definiri, quod ea cauſa factum eſt, uti minus injuriæ obnoxium ſit, ſervarique diutiùs poſſit. Ejus ſemipedis duodecuplum hexapedem ſive menſuram, quam *thoiſe* vulgari vocabulo vocamus, cujus uſus eſt in dimetiendis areis ædificiorum & ſubſtructionibus; ſeptuplum autem cum una ſexta parte ſive totius pedis pollice, ulnam, quam vulgariter *aulne* indigitamus, quæ adhibetur in metiendis pannis, tela periſtromatis, conſtituunt. Adjunxi, ſi quid utilitatis afferre ſtudiis tuis poſſit, collationem aliquot ponderum, quorum aliquot in regionibus Galliæ vicinis uſus eſt, atque adeo in Gallia ipſa, ad pondus regium Gallicum, cujus quadrantem, ut ſupra dixi, cum his literis accipies, ut opinor, inſtitutum à me ad authentica pondera, quæ apud ærarii Gallici præfectum olim reperta ſunt. Editus eſt ante ſeptennium liber Gallicus, quem adhuc nanciſci non potui, cui adjecta eſt collatio complurium menſurarum in variis locis uſitatarum, ſive ex editis libris, ſive ad menſuras ipſas præſentes, in gratiam præfecti rei tormentariæ, cui ego ſymbolam meam contuli: quamprimum in manus meas inciderit, ad te mittam. Injeciſti plurimis deſiderium ingens videndæ tuæ *Pyramidographiæ*, atque adeo obſervationum Aſtronomicarum & Geographicarum, quarum in literis tuis meminiſti.

miniſti. Obteſtor te quàm enixiſſimè, ut ſpecimen aliquod habere liceat, nihil obſtiturum quò minus acervum integrum publici juris facias. Ante annos ſex cognovi te ſtudioſiſſimum linguæ Perſicæ. Eſt in hac civitate Perſa Spahani natus, egregiè in ſuâ linguâ eruditus: ſi tantiſper iſthuc proficiſci poſſes, facile expleres ardentem illam cupidinem diſcendæ linguæ Perſicæ, quam in te admirabar. Vidi apud te olim librum Arabicum egregia manu deſcriptum de re Poetica Arabum: dubius hæreo, nec ſatis ſcio an audere debeam aliquod facinus, quod temeritatis plenum videatur, ſi tuam humanitatem non haberem perſpectam; ſcilicet ſummoperè optarem, ut librum ad clariſſimum Dorrelium iſtuc mitteres, vel aliquem è familia illuſtriſſimi Oratoris ſereniſſimi regis Magnæ Britanniæ, uti apud illum ejus videndi facultas, aut etiam exſcribendi mihi ſuppeteret. Vel ſi iſthic eſſent qui Arabicè ſcribere ſcirent, ut apographum mihi curares; liber enim non adeo magnus eſt, ſi benè recordor: quicquid impenſum erit perſolvam; idem præſtiturus tua cauſa in aliquot libris, qui ſunt hic fortaſſe non indigni curioſitate tua. Facies ſane mihi rem gratiſſimam, ſi pro humanitate tua docueris ubinam Conſtantinopoli, Halebi, vel Alexandriæ Ægypti major opportunitas ſit & copia librorum.

brorum. Interea bene vale, &, quamprimum per tuas occupationes licebit, ne patiare publico bono vigiliarum tuarum & peregre ſuſceptarum profectionum fructus cum invidia deberi.

Tibi obſequentiſſimus,

Pariſiis Kal. Sept. 1641.

CLAUDIUS HARDY.

Nihil adhuc ab hæredibus Fabricii Peyreſcii reſcivi de ponderibus antiquis & menſuris. Si adhuc apud dominum *Martine* bibliopolam liber ſignatus numero 38 manuſcriptus, titulo, *Geronis liber de ſpiraminibus*, faceres mihi pergratum, ſi emeres, vel moneres de pretio, uti ad te mitterem.

A Letter from Archbiſhop LAUD to Mr. JOHN GREAVES *.

SIR,

YOUR kind letter of *Nov.* 15*th* came not to my hands till the beginning of this week; elſe you had certainly received my

* This Letter is printed by Mr. *Thomas Hearne*, in the *Appendix*, Numb. 6. to his *Collection of curious Diſcourſes, written by eminent* Engliſh *Antiquaries, upon ſeveral Heads in our* Engliſh *Antiquities*. Oxon. 1720, in 8vo.

anſwer,

anſwer, and thanks for your kindneſs ſooner. I ſee you have a great deal of care about the coins I ſent you to the univerſity. And I hope, as you have ſeen the laſt I ſent, with others, placed in their ſeveral cells reſpectively; ſo you have alſo ſeen their names written in the book, that both may be perfect, and agree together. For the placing of them, I leave that wholly to the univerſity, whoſe they now are; yet I muſt needs approve of the way of placing them, which you have thought on. Nor can there be any objection againſt it, but that which you have made about the MS. Commend my love to Dr. *Turner* and Mr. *Pocock*; and when you have weighed all circumſtances, whatſoever you ſhall pitch upon ſhall ſerve and pleaſe me. So to God's bleſſing I leave you, and reſt

Your unfortunate poor friend,

Tower, Jan. 13. 164½. W. CANT.

A Letter from Mr. JOHN GREAVES to Archbiſhop USHER *.

I ſhould be glad to hear, that your Grace had received either from the *Vatican* library, or that of the *Eſcurial* in *Spain*, a

* This letter is printed in pag. 509, 510, of the *Collectio of Letters*, publiſhed at the end of Archbiſhop *Uſher*'s Life, by Dr. *Richard Parr*. Edit. *Lond.* 1686, in fol.

tranſcript

tranſcript of *Ptolemy*, or rather *Hipparchus*, περὶ τῦ μεγέθες ἐνιαυσίε. So much the rather, becauſe in peruſing of ſome of my *Arabian* and *Perſian* MSS. I have found ſome obſervations, which may conduce to the clearing of that argument. I have not now leiſure to ſend your Grace thoſe, which were made by the *Indians* at *Kôbah* and *Kandahar*, or thoſe others, which were made by the *Perſians* before *Yezdegerd*'s time, and by *Yezdegerd*, and long after him in *Almamon*'s time, as I find them mentioned by *Alhaſhamy* an *Arabian* author. Thoſe of the *Chatéans*, and of *Naſſir Eddin*, and of *Aly Kôſgy*, as later than the former, ſo exacter, I could not but ſend them to your Grace.

The true ſolary year,

According to the *Chateans* is 365 days and $\frac{8436}{10000}$ parts of a day.

According to *Naſſir Eddin*, 365 days 14′ 32″ 30.‴

According to *Aly Kôſgy*, who obſerved in the 841 year of the *Hegira*, almoſt 200 years after *Naſſir Eddin*, 365 days 14′ 33″ 32‴; whereas *Ptolemy* is much more, 365 days 14′ 48″.

I have finiſhed thoſe *Lemmata* of *Archimedes*, which the *Arabians* call تماخوذات and if I be not deceived, ſuch as wiſh well to the Mathematicks, will think my pains

pains well beſtowed; as indeed it was no ſmall labour to correct the diagrams, and the letters (which were too often perverted in the Manuſcript) and ſometimes to ſupply what was defective in the demonſtration itſelf. According to your Grace's advice, I have made a *Perſian* Lexicon out of ſuch words as I met with in the Evangeliſts, and in the Pſalms, and in two or three *Arabian* and *Perſian* Nomenclators; ſo that I have now a ſtock of above ſix thouſand words in that language; I think, as many as *Raphelegius* hath in his *Arabick* Dictionary. Wherefore I have a greater mind than ever to go to *Leyden*, and peruſe their Oriental Manuſcripts, which were procured by the expence of the States, a thing which long ſince your Grace would have had me to have done. But yet conſidering my lecture in *Oxford*, (though as yet it cannot be read,) it will not be fit for me to go without ſpecial leave from our honourable Chancellor, and two or three more of the Lords of his Majeſty's Privy Council. I ſhall therefore deſire your Grace to procure this favour for me in writing, with this caution, that my abſence for a while may be no prejudice to me at home, eſpecially ſince my journey is for the improvement of learning, and for the publiſhing of ſome of thoſe books, which I

long ſince have finiſhed. There I ſhall have an opportunity of printing your Grace's map, and of perfecting and publiſhing that diſcourſe of Dr. *Bainbrigg* concerning the *Periodus Sothiaca*; and I hope your Grace will think of ſomething elſe, in which I may be ſerviceable to you, and uſeful to the Common-wealth of Letters. Your Grace cannot ſufficiently command him, whom by your many favours you have ever made

Your Grace's moſt obliged Servant,

Sept. 19. 1644. JOHN GREAVES.

If I may ſerve Dr. *Harvey*, I ſhall be moſt ready either here, or at *Leyden* to do it.

For my ſingular good Friend, Mr. JOHN GREAVES.

SIR,

I AM more indebted to your affection, than to your judgment in making me a cenſor of your learned piece. It had not peradventure

peradventure been much amiſs, if you had been ſo far at coſt as to have afforded us a particular topographical map of the place where thoſe *inſanæ ſubſtructionum moles* ſtand. For by that we might have been able the better to have judged of the diſcourſe of a learned gentleman of *Bavaria*, *Johannes Fredericus Herwart*, who in the twentieth chapter of his *Admiranda Ethnicæ Theologiæ Myſteria*, endeavours to take off from the founders of thoſe ſtupendous buildings the ſcandal of folly and madneſs, which in the common judgment of the world hath ſtuck upon them; and would perſuade us, that the Pyramids are monuments of the ſingular wiſdom of the raiſers of them, and of wondrous uſe and benefit to the country, in maintaining the banks of that part of the river upon which the city of *Memphis* ſtands, which otherwiſe were in danger to be ſwept away by the unruly eruptions of the river, if it were not checkt by thoſe wonderful ſtructures. If your leiſure will give you leave to write unto me, give me your judgment upon that diſcourſe of his. One thing I miſs'd in your work, which makes me ſuſpect it is not of ſuch moment as many report, becauſe I find not that you do it ſo much honour as to name it; I mean the Sphinx, which is wont to be repreſented unto us in

the ſhape of the head and ſhoulders of a woman. When you liſt to loſe ſo much time, let me hear from you what you have obſerved concerning that piece, if at leaſt it yielded any thing worth your obſervation. Sir, let not the world be deceived in their expectation to partake of your collections in your travels. I aſſure my ſelf, that as they will greatly benefit the generality, ſo will they more particularly

Your true and faithful Friend,

From *Eton* College this 18th of *October* 1646.

JOHN HALES.

Commend me to Mr. *Pullein*, and requeſt him to ſend me *Philoſtorgius*.

Clariſſimo Doctiſſimoque Viro

D. JACOBO GOLIO.

Matheſeos & linguæ Arabicæ Profeſſori in celeberrima Acad. Leidenſi.

QUOD Clar. D. *Hardy* importunitate quâdam à me impetravit, ut catalogum eorum librorum, quos ex Oriente mecum

cum attuli, ei communicarem, id tibi ne roganti quidem pro veteri amicitiâ, quæ inter nos Lugduni Batavorum interceſſit, præſtandum judicavi. Tu igitur, Vir doctiſſime, homina codicum meorum MSS. accipies, non quidem omnium, præcipuorum tamen. Libros Copticos deditâ operâ omiſi, & ferè omnes Græcos, ſaltem qui de fide Chriſtiana ſcripſerunt. Inter illos etiam qui de literis humanioribus tractarunt, non omnes, quos mecum adduxi, reperies. Multos enim amicis dono dedi, alios linguarum Orientalium ſtudioſis communicavi; denique nonnullos indignos judicavi, qui in tuum conſpectum prodirent. Neque eo animo hæc ad te mitto, quaſi putem me aliquid magnum præſtitiſſe, ſed quo honeſtius fratrem meum chariſſimum, à quo has literas accipies, in familiaritatem tuam & amicitiæ partem inducam. Si qua ei humanitatis officia pro candore tuo præſtabis, non illum ſolùm, ſed me etiam tibi reddes obſtrictum. Illud à te peto, ut medicis veſtratibus, ſi qui ſunt celebriores, commendatum habeas. Quod tanto libentiùs præſtabis, cum intellexeris eum famâ veſtrorum hominum ſolummodò adductum, non vano deſiderio viſendi exteras regiones, ut plerumque fieri ſolet, primùm hoc iter ſuſcepiſſe. Et, cum ut plurimùm noſtrates Lugdunum Batavorum

proficiſcantur, ut Doctoratûs titulo clariores redeant, ille planè diverſo conſilio profectus eſt, non ut honoratior (nam in Anglia hunc gradum obtinuit) ſed ut inde eruditior evaderet. Rem etiam mihi gratiſſimam præſtabis, ſi nonnullas Aſtronomicas obſervationes ex ابن يونس ad me tranſmiſeris: præcipuè altitudinem Poli, tum Alexandriæ, tum Elkahiræ; maximam Zodiaci obliquitatem; unam aut alteram obſervationem ſtellæ alicujus è fixis, cum loci & temporis deſignatione. Reperio enim hunc auctorem eximio elogio à جلال الدين السيوطي ornatum, in libro cui titulus ابجا في مصر و ايلقا لمره (inquit) محلون منجما شديد الاعتنا بعلم الرصد له زيج مفيد يرجع اليه اصحاب هذا الفن كما يرجع المحدثون الي اقوال ابيه و تواريخه و يسمي الزيج الحاجمي و له شعر جيد و كان مغفلا Ideoque tanto majori tèneor deſiderio Ægyptiacas tuas obſervationes cum meis conferendi. Vale, vir doctiſſime, & meo nomine viros clar. D. *Ludovicum de Dieu*, D. *L'Empereur*, & utrumque *Boxhornium* ſaluta.

Tibi addictiſſimus,

Oxonii è Collegio Mertonenſi Cal. Junii.

JOANNES GRAVIUS.

To his much reſpected Friend Mr. JOHN GREAVES.

Vir Clariſſime atque Eruditiſſime,

ANTEA binis literis tecum egi, deque honorifica mentione noſtri, quam tu libro de *Pede Romano* feciſti, atque de egregio opere *de Siglis Perſarum*, quod ſub nomine noſtro prodire in lucem voluiſti, gratias egi quàm enixè potui; ſed quid de meis literis actum ſit neſcio, prout tempora turbida non ſinant quicquam certò ſtatuere. Non exiſtimavi tamen ceſſandum, quin ad te ſcriberem de negotio, quod olim tibi cum D. D. *Morelliis* interceſſit, cujus expediendi occaſio ſe offert ſatis, ni fallor, opportuna, ſaltem recipiendæ pecuniæ, quam ante annos fere tredecim certorum librorum Græco-Latinorum comparandorum cauſa perſolviſti. Nihil dico de annulo aureo μαχαίτᾳ τῦ *Abbot*, quem audio inter ſupellectilem matris dictorum D. D. *Morelliorum* nunc defunctæ diſtractum, ſaltem de eo quod ex auctione pervenit ad hæredes. Itaque monebis, atque adeo ſcribes literas, quibus jubebis & poteſ-

tatem dabis aut accipiendi libros deſignatos in ſyngraphâ D. *Morellii* junioris, aut pretium quod olim perſolviſti, & pretium annuli, ſi annulus ipſe recipi non poſſit, quamprimùm. Ego, quod occaſio momentanea ſatis & labilis permittet, ſi à te reſponſum necdum accepero, faciam. Arbitror enim quoquo modo cauſa tua ſalva fiat, meliùs æque tua re futurum magis, quam omninò in jactura verſari. Interea ſi meæ ad te pridem anno præterito ſcriptæ literæ pervenerint, cùm illud ignorem, patieris gratias agere quanto affectu & animi ſenſu potero, de præclari animi benevoli teſtificatione, quam & libro Anglico *de Pede Romano* & libro *de Siglis Perſarum* extare erga me voluiſti. Si non pervenerint, accipies hanc grati animi ſignificationem, neque omiſſum eſſe illud officium, quod tam eximium beneficium poſtulabat, exiſtimabis. Sunt hic viri eruditi, qui audierunt Oxonii inter libros quos celebris ille Gulielmus Laudus liberaliter in memorabilis alicujus collegii bibliothecam tranſcripſit, dum authoritate gratiaque floreret, reperiri Γεμίνε ἐξηγήσεις Γεωμετρικὰς, atque ardent illius libri videndi deſiderio; docebis num ejus libri apographum conſequi poſſet ſpes aliqua effulgere, utrum amanuenſes ſuppetant, utrum licentia exſcribendi obtineri, & quid de hac re ſentias. Scies omnia

ponde-

pondera clariſſimi Peireſcii anno præterito in manus alicujus magiſtri libellorum ſupplicum in regia incidiſſe cum nummis antiquis Peireſcii, &, niſi fallor, congius ille *Farneſianus*, de quo tam diligenter ante annos ſeptem ſcripſeras. Facieſque me certiorem ecquid uſui tibi impræſentiarum eſſe illa poſſint, nam non ſegniter incumberem ut gratificari tibi poſſim eâ vel qualibet alia de causâ. Audio à te editum alium librum Perſicum, quo catalogus ſtellarum fixarum & de ortu inerrantium aliquid contineatur; docebis me quid illud ſit, ſi placeat. Accepi Londini verſari *Chriſtianum Ravium* Berlinatem, qui olim, id eſt ante annos ſex, apud ſe eſſe aſſeverabat Apollonii codicem Arabicum antiquiſſimum, cum adjunctis aliis tractatibus triginta. Eum non dubito tibi eſſe notum: tu ſi illum noviſti, aut ſi occurrat tibi, quemadmodum difficile non puto, ſi minima minus ſatagas ex cauſa; ſi nondum notus eſt exquire, & quid credas de eo codice, ſi videre non potes, perſcribe. Interea benè vale.

D. V. Obſequentiſſimus

Pariſ. die 28 Junii 1649. ſtylo novo.

CLAUDIUS HARDY.

Scribe, ſi placet, quod factum ſit *Archimedis* libro *de Sectione Circuli*.

A Letter from Mr. JOHN GREAVES to Mr. CLAUDIUS HARDY.

Vir nobiliſſime atque eruditiſſime,

RURI agebam, cum literæ tuæ Pariſiis datæ die 28 Junii 1649 ad manus meas pervenerunt. Binas alteras, quarum meminiſti, propter rerum hîc incertitudinem nunquam accepi. Ad proximas, gratias tibi quas maximas poſſum, ago, quod tanto temporis intervallo, negotiolum illud quod mihi cum D. D. *Morelliis* interceſſit, è memoriâ tuâ non exciderit. Cogitabam ſanè ante annos 5. Pariſios adire, & præſens cum D. D. *Morelliis* cauſam diſceptare: ſed in ipſo itinere à militibus noſtris pecunia & ſupellectile meâ literariâ exutus, & poſtea litibus implicitus, aliæ me curæ ſolicitabant. E quibus ſummo ſtudio & humanitate doctiſſ. D. *Seldeni* poſt maximam animi mei moleſtiam fortunarumque jacturam tandem emerſi. Inde eſt quod ruri nunc ſim, quo naufragas meas tabulas commodiùs colligam: nam à prædonibus illis ſpoliatus, amiſi, quod tu (ſat ſcio) iniquo animo feres, præcipuos è codicibus MSS. quos Conſtantinopoli emeram, & inter illos Archimedis تماخوذات quos

quos amicorum ſtudio, qui leges & libros, ſacra omnia & profana paſſim hic conculcari indignantur, ſpero me brevi recepturum. De *Gemino* quod petis, utinam tam facile eſſet effectum dare, quod tu aliique viri docti efflagitant, quàm paratum tibi illiſque inſerviendi animum, ſi qua ſpes affulſerit, ſpondere. Utcumque fors tulerit, ad Proto-Bibliothecarium Oxonii, virum eruditum & amicum meum, ſcribam; primò, ut quærat Γεμίνου ἐξηγήσεις γεωμετρικὰς inter Rever. Archiepiſc. κειμήλια, tum, ſi reperiret, ut fidum amanuenſem proferat. De licentia exſcribendi nulla eſt difficultas. Mihi volupe eſt pondera illa & numiſmata Cl. *Peireſcii* in manus viri honorati incidiſſe. Ubi verò gentium ſit Amphora antiqua Nemanſi effoſſa, de qua ante 8. annos me admonuiſti, libenter ſcirem. E re eſſet literaria Amphoram eam (ſi integra ſit) aquâ pluviali oppletam ad pondera veſtra Gallica examinare, lateraque interiora (modo vas quadrantale ſit) cum pede Pariſienſi exactè conferre. *Ravium* (ut rectè indicas) ſæpe vidi: inde cum eo notitia mihi aliqua eſt, amicitia nulla. *Apollonium Pergæum* an vendiderit, an perdiderit, non certò ſcio. Ante annos aliquot in muſæo ipſius vidi *Apol. Conica*, quæ deſideraſti; ſed adeò malè exarata, exeſis præ vetuſtate vocabulis, ut nunquam poſſint niſi

mendoſiſſimè

mendoſiſſimè in lucem edi. Schemata tamen ſatis ſunt elegantia. Catalogum, quem quæris, nonnullarum è præcipuis ſtellis inerrantibus ex obſervationibus *Ulug Beigi* ante duos ferè annos edidi, integrum σὺν Θεῷ aliquando daturus. Impræſentiarum Epochas ejuſdem *Ulug Beigi* Orientales cum Aſtronomia Chataiorum typis mandavi, eaſque Epochas omnes ad annos Chriſti Dionyſianos in annis expanſis reduco. Tabulæ etiam binæ Geographicæ, altera *Naſſir Eddini* Perſæ, altera *Ulug Beigi* Tatari, cum longit. & latitud. civitatum (ut in Ptolemaicis) à me impreſſæ ſunt, verùm nondum diſtinctè, quod commentarii ex Arabum Geogr. quos paraveram, haud à typis abſoluti ſunt.

Sub prælo inſuper ſunt duæ tabulæ Geographicæ, nempe *Chorafimiæ* & *Mawaralnahræ*, Arabicè & Latinè, cum ſcholiis, quas ex *Abulfeda*, collatis quatuor inter ſe Cod. MSS. exſcripſi. Faxit Deus, ut mihi vita & otium ſuppetat, quo aliquando pariat, quæ jamdiu parturivit animus.

Vale.

To

To his much reſpected Friend,

Mr. JOHN GREAVES,

Mathematic Reader at *Oxford.*

Vir præſtantiſſ. amice colendiſſime,

QUOT tibi devinctus ſum nominibus efferre certè nequeo. Me non ſolùm cùm in Anglia degerem, ſummo amore complecti dignatus es, ſed etiamnum mei abſentis mearumque rerum curam gerere delectaris, quod luculenter declaraſti nuperrimâ ad me miſſâ literulâ per Dominum *Hachium.* Gratias tibi habeo immenſas pro ſincero tuo affectu in communicando mihi conſilio de ratione itineris Conſtantinopolitani; ſed jam diffido de ſucceſſu hujus itineris, præſertim cum Dominus *Entrius* nuper ex Oriente redux mihi id ferè diſſuaſerit ob res Chriſtianorum, quæ ibidem malè ſe habent. De commoditate inſigni ibi vacandi linguis Orientalibus, & uberrimo fructu, quem quis inde reportare poteſt, ſatis ſuperque mihi retulit, ſed hoc tempore durante (ſc. bello Veneto) neutiquam id iter eſſe capeſſendum judicavit. Si aliqua ſpes pacis ſtabiliendæ inter Turcam

&c

& Venetos inſtanti æſtate affulſerit, ſpem erigam; ſin minùs, planè deſpero, & Italiâ relictâ, Germaniam ſequenti autumno petam. Interim totis viribus huic ſtudio incumbam, nactus, ex recommendatione Rev. *Patris Kircheri*, conſuetudinem cum variis viris doctis ex Oriente oriundis. Intellexi ex prædicto Domino *Entrio* mortem Domini *Pecket* junioris, mercatoris Angli Conſtantinopoli, cujus in epiſtola mentionem feciſti. Reliqua, quæ mihi occurrerunt, nova ex Dom. *Hachio* intelliges. Dom. *Johannem Wilfrid* Anglum ſæpiùs quæſivi, ſed nondum mihi contigit ipſum domi invenire ob diverſa negotia, quibus ſemper diſtractus eſt. Non deero ipſum tuo nomine compellare, primâque occaſione tibi reſponſum procurare. Si interea in aliis meâ operâ hîc indigeas, velim mihi imperes liberrimè. Sum tibi, dum vivo,

Addictiſſ. ſervus,

Romæ 27. Nov. 1649.

P. SCAVENIUS *.

In via cum haſce mercatori meo apportarem, forte fortunâ offendi Dom. *Wilfrid*, qui nullam plane fecit mentionem pecuniæ ipſi relictæ; excuſavit ſe minus eſſe expertum rei

* He was a noble Dane, who was born in 1623, and ſtudied at *Oxford* in the year 1647: (*Wood, Faſti Oxon. Vol.* 2. *Col.* 61. *Edit.* 1721;) and after his return to his own country became eminent on account of his learning, and the works which he publiſhed.

rei nummariæ, & ob hanc cauſam non auſus eſt aliquos antiquos nummos procurare; promiſit ſe ſequenti ſeptimanâ tibi ſcripturum.

To the worthy, my eſpecial Friend, Mr. JOHN GRAVES, at *Pope's* near *Hatfield.*

COmmittere non potui, mellitiſſime (& ſi id pateris, mi) *Gravi*, quin ad muſeolum meum jam divinis auſpiciis redux, etiam ocreis nondum detractis, Muſas ſollicitem, calamumque arripiam, ut ad te ſcribam. Feci lubens, tremula tamen mente manuque (neque diffitebor) non ignarus quæ tanto æquora, quam grandes Muſas provocem, coram quàm exercitato ingeniorum præſide nunc miſellum me ſiſtit gratitudo, quum ad te ſcribo. Mallem tamen in ſcribendo parum cautus, quàm non ſcribendo parum gratus, apud te tuoſque videri. Habete igitur gratias, quæ vobis debentur maximas: genio lubentiſſimè litâſſem, niſi quod noctu non liceat. *Tookium* aurei ſeculi virum, qui mille retrò annis naſceretur, quando integritas & ſimplicitas, & juſtitia floruere, unà cum pientiſſima collectanea ſua meo nomine ſalutes, oro. Uxorculam tuam ſuaviſſimam meo rogatu uno baſiolo, quod meum dici cupio,

cupio, dones oro. Quod ad te verò ſpectat, libelli unius dono tibi effuſiſſimè ſatisfactum novi. Vale meorum doctiſſime, qui tuorum ſim amicorum ultimus, non poſtremus tamen,

J. RIDLEUS.

Dominæ Tookiæ matrem non ſalutare nefas eſto.

A Letter of FRANCIS JUNIUS to Mr. JOHN GREAVES.

Worthy Sir,

THE Queen's intention was at the firſt, that *Voſſius* ſhould have gone for *Spain* by way of *England*, and ſo I thought he would have ſpoken to you himſelf; but the Queen having altered her former intentions that way, he is now gone back again for *Sweden* with Monſieur *Bouchart*. When I ſpoke to him about ſome books in *England*, he anſwered, that they found in *Sweden* a mighty difference in the price of books had in *England* and other places. For in *England* they eſteem their things too high; whereas at *Venice*, *Florence*, *Rome*, *Naples*, *Sicily*, (in all which parts Dom. *Nicolaus*

Nicolaus Heinſius is now employed for the Queen) they meet with divers old libraries, in the which old *Latin* and *Greek* manuſcripts are at this preſent (the love of learning being but cold in them parts) at the rate of ſo much a pound; as if books were to be valued only by the weight of parchment. The Queen is now likewiſe about the ſending of one into *Turky* for *Greek* manuſcripts. I heard my kinſman *Voſſius* name him, but forgot his name. I meant, according to Mr. *Marſham*'s deſire, to have waited upon Monſieur *Salmaſius*, and to have acquainted him with ſome additions to *Æſchylus* and his Scholiaſt, a young *Engliſh* gentleman hath met with, and to have upon that occaſion inquired, if he had any thing that might conduce to a new edition of *Æſchylus*: but I have been hindered by a ſtrange breach betwixt him and my kinſman *Voſſius*; ſome particulars of which I have acquainted Mr. *Phillips* at large with. Thus wiſhing I might have been better able to do you or Mr. *Marſham* any ſervice, for the manifold reſpects and favours formerly received, I muſt ſtill deſire to meet with ſome other opportunity, whereby I might ſhew myſelf to be,

Worthy Sir,

Your moſt affectionate Friend and Servant,

F. JUNIUS.

Amſterdam 1652.
14 May, ſtilo novo.

An Account of ſome Experiments for trying the Force of great Guns, by Mr. *John Greaves.*

Firſt publiſhed by Mr. Stubbs *in the* Philoſophical Tranſactions *for* July 1685, Numb. 173, *p.* 1090.

1651, *March* 18, at *Woolwich.*

AT two hundred yards diſtance from the platform for great ordnance, there were raiſed three butts one behind another. The ſpace between the firſt and ſecond butt was fourteen yards; between the ſecond and third eight. The thickneſs of each butt was nineteen inches; whereof thirteen was of beams of maſſy oak faſtened into the ground, and ſet ſo cloſe, that they touched each other. On each ſide were planks of oak, three inches a piece in thickneſs; and theſe were joined cloſe, and faſtened on both ſides with iron bolts and ſtrong pins of wood; and on the back, at the ends, and on the middle, there were three braces of elm, a foot in breadth, and five inches in thickneſs.

The firſt experiment was with an iron demy-cannon of 3500 *l.* weight, the bullet 32 *l.* of iron, the powder 10 *l.* which pierced through

through the two firſt butts, and ſtruck in the third, ſo as the ball was almoſt quite within; but the timber not ſhivered (ſmall) nor ſcarce ſplit. The butts being touched by me felt not warm. The like execution was done when it was charged with 9 *l.* as alſo when with 8 *l.* of powder. This demy-cannon was with a cylinder bore.

The ſecond experiment was with an iron demy-cannon, having a taper bore, and being 3600 *l.* in weight, and four inches longer than the former; the iron bullet 32 *l.* and the powder 7 *l.* which in three trials ſeemed to have the ſame force with the firſt. One of the ſhots piercing thro' the ſecond butt, and lighting near the edge of the middle butt of elm, tore it, but by the yielding of it, the bullet glanced aſide off the third butt, and entered into the earth.

The third experiment was with a whole culverin in braſs of 5300 *l.* in weight, eleven foot one inch in length, with a taper bore. The iron bullet was 18 *l.* in weight; the powder in the firſt trial 10 *l.* in the ſecond 9 *l.* in the third 8 *l.* which laſt proportion did the beſt execution, and paſſed through the two firſt butts, entering gently into the third, which the former two did touch, but did not enter.

The fourth experiment was with a whole culverin in braſs, made at *Amſterdam* for the *French*, with this mark, 3580, being ten foot long, and not very thick in the breech. The firſt ſhot with 9 *l.* of powder, 18 *l.* of bullet iron, paſſed through the three butts, and entered one foot into the ground. It paſſed by the joints of the timber, two planks having been bent down before. The ſecond ſhot with 8 *l.* of powder paſſed through two butts, and grazed between them. The third with 8 *l.* paſſed two butts, and ſeven inches into the third; but the firſt butt was much battered before, where it entered. The fourth ſhot paſſed with 8 *l.* of powder two butts, and in both butts paſſed through the midſt of a maſſy ſtrong beam (below) that had not been battered.

The fifth experiment was with an iron demy-culverin, having 9 *l.* bullet in iron, and 4 *l.* powder. This paſſed one butt, which was torn before, and entered the ſecond.

This half culverin was ſhot eight times as faſt, as they could charge it with powder and the iron bullet; and yet was but ſcarce lukewarm at the breech, a little more in the midſt, moſt at the muzzle, and this laſt ſcarce ſo hot as my hand, and yet the gunners in charging her wet not at all the ſcoop or ſponge.

The ſixth experiment was with a braſs demy-culverin; the breech of her was 13 inches ½, tried with a calaper compaſs, the mouth 2 ½. The firſt ſhot with 4 *l.* of powder, 9 *l.* iron bullet, paſſed two butts. The ſecond ſhot, with 3 *l.* of powder, paſſed almoſt two butts. This proved to be the beſt ſhot, becauſe the timbers were ſtrongeſt.

A Fragment of a Tract of Mr. JOHN GREAVES *concerning the Mountains of the Earth, according to the* Arabians.

THAT mount *Sina* reaches to the Red-ſea, is confirmed by the Geographers and Travellers of our times. One thing is remarkable, which neither Hiſtorian, nor any other that I know of, makes mention of; and that is this: that the rocks are there of a goodly ſpeckled kind of marble, the colour being red with ſome mixture of black and white. From whence almoſt all the choiceſt pillars and huge vaſt ſtones, that are now in the world, have been brought down the Red-ſea, and ſo conveyed to the *Nilus*; by

which they have been carried up to *Thebes*, or down to *Alexandria*, and other places. I have ſeen wonderful fair and great ſtones, that have been brought anciently from mount *Sina*; whereof ſome of them are in the Pyramids, others are made into Obelisks and Pillars. Theſe pieces both of *Conſtantinople* and *Rhodes*, which are ſo huge and vaſt; thoſe goodly pillars, which are in the *Pantheon*, built by *Agrippa*; as alſo the *Aguglias*, full of *Ægyptian* Hieroglyphics, have all had their original from thence. This I may the more confidently aver, becauſe a learned man, a *Venetian*, who had been ſome pretty while at mount *Sina*, and whom I knew to be very curious, aſſured me, that he had ſeen ſome pillars there, which were almoſt finiſhed, but by caſualty had been left imperfect, and not brought away. And that for many miles there were huge rocks and mountains of this red marble ſpeckled with black and white, of which kind all the ancient fabricks of *Ægypt* conſiſted. And beſides this place of mount *Sina*, all the other quarries and hills are of a kind of white free-ſtone like ours; wherefore they could not have of them from theſe, but from thoſe of mount *Sina*.

Obſervations made by Mr. GREAVES *in his Travels; extracted from his Manuſcripts in the* Savilian *Library at* Oxford.

LEGHORN.

June 20, *ſtyl. vet.* 1639.

I Obſerved the weſt ſide of that pillar, which ſtands by the water-ſide at *Leghorn* without the city-walls, on the top of which ſtands the Duke in a white ſtone, and below four Moors in braſs, excellently caſt. I obſerved with a compaſs of above one foot *Engliſh*. The thickneſs of the whole compaſs was about an inch or leſs; whereof the ſides were exactly parallel, and the bottom leſs. I ſet the flat of the compaſs upon the flat of the end-ſtep from the ground. The ſtone, that I ſet it upon, was of a darkiſh marble. The ſtone, that I ſet it to, was of white marble; upon which white marble the foot of the elder ſlave ſtands, where the point of the needle declined to the eaſt 11° ½ almoſt. This I tried often. This was the ſouth end of the weſterly ſide. On the north end of the weſterly ſide, upon the ſame flat I ſet the compaſs again, where the

ſlave looks with his eyes up to heaven, and his left leg reaches to the ſtep next below the place where I ſet my compaſs. The variation to the eaſt was 12° ½ *ferè*.

Note, that I ſet my compaſs to reach to the very ends of the weſt ſide in both theſe obſervations.

Again, upon the next ſtep, which is above the blackiſh ſtone on the weſt ſide, I ſet my compaſs to that end, which is near the foot of the old ſlave, to the very end of the weſt ſide, where the variation was 8° ½ *ferè* to the eaſt.

FLORENCE.

THE number of ſouls in the great Duke's ſtate, as by liſt was brought to the great Duke in 1630, are 1,100,856. He is able to raiſe 46 *Milia Soldati a piede, & 2000 Cavalli, fra Corazze, Cavalleggieri & altri.* But if he ſhould loſe a battle, he could not eaſily ſupply this number.

Florence, by the Duke of *Northumberland*'s obſervations, *altit. Poli* 43° 46'. So much he told me he had found it, allowing for refraction, parallax, *&c.* as *Tycho* doth.

He hath found out a perpetual motion, ſo that in 2000 weight, that ſhall run, there ſhall not be above half an ounce difference in 402 hours.

Obſerve,

Obſerve, the moon, when ſhe is not above half lighted, when ſhe comes to any fixed ſtar in the *Zodiac*, there may you plainly ſee when the dark part of her eclipſes a ſtar. This may ſerve for finding the longitude better than by a Lunar eclipſe, becauſe the beginning of it is not ſeen ſo well as in this. I ſay, it is better for them, whoſe latitudes are not much different.

The inſcription at the entrance of the Duke's library at St. *Lorenzo*, where you enter an admirable ſtair-caſe not quite finiſhed,

Deo Præſidibuſque Familiæ Divis Clemens VII. Medices Pont. Max. libris opt. ſtudio majorum & ſuo undique conquiſitis Bibliothecam ad ornamentum Patriæ ac Civium ſuorum utilitatem D. D.

Within the library, at the farther end, is this inſcription:

Bibliothecam hanc Coſm. Med. Tuſcorum Magnus Dux primus perficiendam curavit,
An. Dom. 1571. 3° *Id. Jun.*

Obſerved at *Florence* by my compaſs ſet to that admirable ſtatue of *Baccius Bandinellus* of *Hercules* killing *Cacus*; obſerved, I ſay, upon

upon the left ſquare, where is this inſcription, BACCIUS FLORENT. M. D. The compaſs was of a foot long, which fell in from the plain of this ſide 10 degrees to the eaſt from the ſouth. I ſet my compaſs under M. D. cloſe to it, ſo that the end ended with D. Obſerved 1639, *Aug.* 4. *ſtyl. vet.*

Obſerved at the ſame time at the Exchange on the north ſide, at the weſt and outermoſt corner, at the firſt arch running from weſt to eaſt. The fly fell one degree to the eaſt (from the plain of the ſide of the arch) from the ſouth.

Three thouſand *Florentine Braccio*'s make an *Italian* mile. So the Mathematical Profeſſor at *Sienna* told me, as alſo Sir *Robert Dudley*. But then an *Italian* mile will be more than an *Engliſh* mile, as Sir *Robert Dudley* truly obſerved.

LUCCA.

THE walls of *Lucca* are of a great thickneſs, with trees growing along very handſomely upon them. The compaſs of them is 5610 paces of mine. There are eleven baſtions; and the length of each curtein is 510 of my paces.

The way between *Piſa* and *Lucca*, as alſo between *Piſtoia* and *Lucca*, and between *Piſtoia* and *Florence*, is wonderful rich. The ditches and fields ſet with vines and corn ſowed

ſowed between, after the reaping of which they ſow *Milium*; ſo that they have two harveſts every year. All the way is very plain vales between *Lucca* and *Piſtoia*, where are ſome little hills in the paſſage.

Lucca ſtands as it were encompaſſed with hills, and is under the Emperor's protection. The town is ſtrong, and very regular with baſtions. The ditch about it is dry, ſave only a current of 10 feet broad, and of a good depth, which is in the midſt of the ditch.

There are in it ſtore of inhabitants, and about 5000 ſoldiers upon roll. Every night ſo many gentlemen watch upon the walls, with about 200 or 300 ſoldiers. The length of the ſtate one way is near 40 miles. They are governed by gentlemen, out of whom ten are choſen, and a Duke for two months. Theſe continue in the palace, where each has his chamber, and diet in the hall in common. Upon the account of the ſtate, they may not go out during this time, and have a guard of 100 ſoldiers.

There are ſtore of churches, and very rich altars. In one is ſeen the hole where a gameſter ſunk into the earth, for blaſpheming and throwing a ſtone at our lady's picture.

PISTOIA.

PISTOIA is a well built town, and walled. There is a very fair church in it of the beſt architecture that may be ſeen. A cupola of 18 angles, with a long frontiſpiece before it.

SIENNA.

Aug. 25. *ſtyl. nov.* 1639.

AT one hour and half after ſun-ſet, I ſaw one of the *Sidera Medicea* at *Sienna*, by the help of a glaſs. It appeared as a little ſpark, was about an hair's breadth, or more diſtant from *Jupiter*, and to the weſt of him. I could not, nor the Mathematical Profeſſor, diſcover any other.

Note, *Galileus* never made but two good glaſſes, and thoſe were of old *Venice* glaſs.

FRESCATA.

AT *Freſcata* there is a fine houſe of Cardinal *Aldobrandinus*, *Clement* VIII's nephew.

The face of the houſe is thus:

. . . .
. . . . O . . . .
. . . . O . . . .

It

It is three ſtories high. The middle ſtory is not high nor handſome, and the windows to it are little. The other ſtories are very high; the windows to them bigger. The houſe is two ſtories broad; only there is in the middle a large hall, and at each corner a door to go into three rooms a piece. Above this hall there is another equal to it, that hath four doors, and to each three rooms as below. Becauſe this room is high, the middle of the houſe is higher built than the reſt; yet the end riſing to anſwer the middle. Before the lower hall and the upper there are two arches upon pillars of porphyry. Some of the rooms are ſquare of 7 paces; others long for variety. Before the houſe is a riſe with a walk, ſome ſome 30 yards diſtance from the houſe. It is as long as the houſe. At the ſides are porphyry pillars, with one arch a piece. In the middle is water-work, thunder, rain, hail, blowing the horn, and water comes three deſcents to this fall, where there is *Atlas*, with a great ſphere, which is full of ſpouts, and water running out at all ſides. On the ſides of the round are many ſtatues.

The aqueduct, that feeds this water-work of the *Belvidere* at *Freſcata* of *Aldobrandinus*, is brought five miles on the top of an hill. The houſe ſtands on the ſide of

the

the hill, and the gardens are anſwering. When I was there, it was very cold, yet within the aqueduct it was hot. Here was *Tully's Tuſculum*; and there is a very brave proſpect over a great plain towards *Rome*, and beyond it. On the left hand you ſee the ſea, on the right hand *Tivoli*, and northwards of *Tivoli* the hills covered with ſnow. By reaſon of the height of this houſe, the hills about *Rome* ſeem almoſt as a plain. Where theſe works are, in a fine room, there are the nine Muſes at the end, with their muſical inſtruments, which by rooms below full of wind play; and ſo do the organs with a very great noiſe, as I have heard. In the midſt of the room there comes wind out of a pipe to cool the room, ſo ſtrong as that it keeps a ball playing over the hole, as I have ſeen water to do.

ROME.

THE altitude of the pole at *Rome*, found by a great inſtrument of *Clavius*, and confirm'd by Sign. *Gaſparo Berti*, is 41°. 56'.

For *Latin* medals I have ſeen a good manuſcript of *Claudio Demetrii Franceſe Antiquario del Cardinale Fr. Barberina*: His method was this; in one column the time, that the Emperor liv'd, was put; over againſt this his retract;

retract; then in five or ſix columns againſt each retract theſe,

aurea	arg.	ærea	magn.	parv.
* * *	*	*		

If they were common there was no aſterisk; and two or three aſterisks, as they were more or leſs common. All the medals from *Tiberius* to *Antoninus Pius, li maeſtri erano buoni*; after him they were bad. Medals that are rare are theſe: *J. Cæſar, Otho, Vitellius, Pertinax, Did. Julianus, Peſcennius Niger, Clod. Albinus.* For women thoſe of *Livia, Julia, Agrippina, Octavia, Poppæa, Sabina, Julia, Plotina, Marciana, Matidia, Manlia, Scantilla, Didia Clara, Plautilla.* The reaſon, why few of theſe are found, is becauſe they lived but a little while Emperors or Empreſſes.

Many of the *Roman* medals of the Conſuls are braſs within and ſilver without. Many of them are braſs ſilvered. You may know medals by the coming of them off. If they be caſt off, they come off round, not ſo ſharp in the angles or edges, and the lines not ſo fine. Thoſe that are counterfeits are of one *Padouano.* He made ſome forty of thoſe that are rareſt to be found. For others it is

not

not worth the while to caſt a ſtamp, which will coſt forty crowns.

My *Alexander* the *Great* in gold, with 8 grains *Engliſh*, exactly weighs the 20*s.* in gold *Engliſh*; the piece is very intire. On one ſide is *Alexander* with an helmet; a collar as it were of pearl round about his neck, a jewel in his ear, and behind his ear as it were ears of corn. It is the faireſt coin I have ever ſeen.

Achilles Maffæus, *Achilles Statius*, *Fulvius Urſinus*, *&c.* cum veram pedis Romani quantitatem ſtatuere vellent, plures ejuſdem pedis menſuras ſimul contulerunt, & earum octo cum antiquiſſimâ dicti pedis formâ, quæ in baſi quadam in hortis Vaticanis extat, ad amuſſim convenire videntes, ex hoc pede quadrato vas confecerunt, quod & nunc octo aquæ vel vini libras, quibus publicè ſignatis civitas utitur, omnino capere invenerunt, & cum octo congiis antiquis ita congruere, ut neque minus quidquam neq; amplius inter utraq; eſſet, ſecundo experimento evidentiſſime cognoverunt, & libras noſtri temporis cum antiquis Romanis eſſe eaſdem.

The *Amphora* is the *Cubus* of the *Roman* foot, and contains eight *Congii*; each *Congius* ten *Libra*'s in *Veſpaſian*'s time. The *Quadrantal* is the ſame with the *Amphora*.

In

Aurei Romani & Reipublicæ tempore & priorum Cæsarum facti, & Pondere & Bonitate Philippeis ferè respondent, cum eorum 3, 5 unciam, vel 42 Libram Romanam pondere efficiant. Hi verò qui à principibus percussi solidi & semisses appellati sunt, Aureis & Semi-Aureis Atticis pares fuere, quòd ex Libra 48 signabantur.

In an Apothecary's shop I saw a fair and antient *Vas Numidicum*; the cover half a *Congius*, the body held one and a half of a *Congius*. I measur'd another that held half a *Congius*.

In another Apothecary's shop I saw a *Tarantula*, which is like a long great spider; the body is reddish, the back dun, but yet spotted. He had two *Salamanders*, which lived two hours in a great fire: they often cast out little drops, which in the fire make great bladders or bubbles as thick as one's fist. He is very cold, not moist, whereby to extinguish the fire; he is rank poison, and the very smell of him alive would cause the head-ach 24 hours. I found no such effect of him dead; only I observed the flesh still stank, which might be because he was not well dried: the skin is blackish, and he hath many yellow spots, whereof some are long and as big as a three-pence or more; he is like a Cameleon for the head, legs, and tail, but yet a little less

Ceſtius's Tomb or Pyramid is 26 yards broad at the baſis near upon, and is very ſteep. Within it is brick and mortar; without covered with marble about 15 inches thick, as in ſeveral places I tried.

Obſervations on the Crypta of Saint Calixtus.

1. VI IDVS NOVEMBRES CAELIVS ACHILLEVS ELATVS EST.

2. ALCIMILLA LEONTIA.

3. LVNAMRCIANE.

4. TIP.

5. POSSTA VICTORIA LACTARIA.

6. SEPTIMINA AVRELIVS CALLIMEDES.

On this ſixth ſtone was the figure of a ſhepherd; one ſheep on his back, and the other before him.

At the head of the martyrs the Chriſtians made without upon the plaiſter the ſign of the

the palm, one of which I brought with me. In ſome places you have a great palm, which is conceived to have been for two martyrs, and ſtands between two of them. In other places I have ſeen glaſſes broken, wherein hath been the blood of the ſaints plainly to be ſeen. At the ſame and other places I have ſeen earthen lamps, which have been faſtened into the wall for to burn, as I conceive, before the ſaints. In ſeveral places I have ſeen this figure At one place I obſerved at the tomb in the ſide of the wall this figure very plainly. Here in this of *St. Callixtus* there are three *Crypta*'s, one above another; the loweſt may be ſome 80 *Roman* palms deep, from the ſuperficies of the earth or the field above. In many of theſe long entrances or paſſages, which are not above a yard broad, in ſome places leſs, I obſerved the bodies to lie eight ſtories one above another, and between each near upon a foot of earth. The ſides were made up with ſome 2 or 3 *Roman* bricks, and ſometimes with ſtones with inſcriptions; but this was but ſeldom. There were many luminaries or ſquare places above, to let down the bodies; all which places had a deſcent after ſome 5 or 6 yards, with a croſs ſloping, which went into theſe ſeveral allies. Being below and in the firſt *Crypta*, and under the way to *St. Sebaſtian*'s,

I could plainly hear men walk over the firſt, and the wall or place to walk upon was of a great thickneſs. The air of theſe *Crypta*'s is very good, in winter very hot. The *Roman* gentleman, that conducted me in, and was very learned and very well practiſed, told me, that he ſtaid two days and two nights within, without any hurt. I confeſs I found none in three hours ſtay. There are often to be ſeen in the tombs of theſe martyrs and others round prints, where there have been found medals of the Emperors, to ſhew when they died or were martyred. Some of theſe medals have been found in the mouths of the ſaints. The bodies all lie with their faces upwards, and for the moſt part with their feet to the *Luminaria* or entrances. There are many *Sepulchra laqueata*, and under ſome of them tombs cover'd with fair ſtones and *Parian* marble, and ſome of theſe with inſcriptions. There are many chapels as it were; ſome with cupola's; and in one of them there lately hung a lamp in the midſt. The place I plainly ſaw. There are alſo to be ſeen prints in the plaiſter, where there have been ivory crucifixes or ſtories of the bible found. Theſe prints for the moſt part are of this figure: There are, in the ſides of the walls alſo, many children buried. The bones

bones of all are rotten, and being touch'd tumble to duſt.

In one place, or little chapel, there was plainly the place of an altar. The altar ſtands to the eaſt; on the right hand are three pictures, I know not of what. Over the altar are three ſhepherds, ſix ſheep, two a piece at each end, and one between every ſhepherd; on the left hand a lamp. On the ſame hand there were the miracles of the fiſh and bread (the bread I perfectly remember in two baskets, the fiſh I do not) and ſome other pictures with it. The roof of this arch was painted, but there were no *Imagines*.

Theſe long galleries ſeem to have had doors in many places. The doors turned in two holes; the one above, the other below. I have ſeen the jambs of one of theſe doors made in ſtone (as I remember) and ſo thoſe above the jambs. Theſe galleries or allies, for all that I could obſerve, go along in ſtrait lines; many of them are whited, ſome plaiſtered, and ſo are the *Capella's*, which have been made, as I conceive, for the burials of families, or ſome honourable perſonages. All theſe, as I remember, are like the *Pantheon* or *Rotonda* in *Rome*, for the circular figure; and many of them have like arches about the great cir-

cle, like other half chapels. Some of them have cupola-roofs; others in this faſhion (as I have ſeen, in the *Collegium Romanum*, the arches of the outward cloyſters by the ſchools.

The Chriſtians uſed to take ſometimes ſtones of the *Gentiles* with inſcriptions; but then they turned their inſcriptions inward, as the *Roman* gentleman told me he had ſeen, who was a moſt diligent and exact obſerver, and aſſured me, in the figures of *Boſius*, there was nothing but truth: he drew the plans of them. For his part, being an *Academic*, he would not believe almoſt any thing in writings but what he ſaw, and would have others to do the ſame. Upon one tomb (of a *Greek*, I think) I ſaw the figure cut of a *Columba*, (it may be a turtle) and in another the figure of a woman praying, *expanſis & erecti manibus.* In ſome places a man may ſee upon the roof of theſe galleries an exudation of white tartar in little *Stiria's.*

The ſame night I came out, which was 1639, about the 20th of *October*, on a *Friday*, I wrote this, and that where the ſix inſcriptions are down. The inſcriptions I wrote in the *Crypta's*, all ſaving this following, AVRELIA AGAPE LAVS DEO, I ſaw

I ſaw ſome little pots alſo faſten'd in the mortar; I cannot conceive for what they ſhould be, unleſs for holy water. Lamps they were not; the pots might hold about half a pint.

Into theſe places they put the bodies without any coffin; they ſeem to be of the ſtature of men of our times. One was found of twelve *Roman* palms, as Signior *** told me.

Church of *Santa Maria del Popolo.*

In the church of *Santa Maria del Popolo* (it is cloſe by *Porta del Popolo*) there is this inſcription on a ſtone in the pavement:

Altare à Paſchali II. divino afflatu
Ritu ſolenni hoc loco erectum,
Quo Dæmones
Proceræ Nuci Arbori inſidentes
Tranſeuntem hinc Populum dirè infeſtantes
Confeſtim expulit,
Urbani VIII. Pont. Max. authoritate
Excelſiorem in locum, quem conſpicis,
Tranſlatum fuit
Anno Dom. 1627. *die* 6to *Martij.*

Here where the altar ſtands, they ſay, *Nero* was buried.

St. *Peter's* Church.

The diameter of the ballon of the top of St. *Peter's* cupola, in *Rome*, is 8 *Engliſh* feet; 1 inch from the inſide to the inſide.

The *Roman* gentleman told me, he found it to be 9 palms.

In the walk or portico of St. *Peter*'s, at the north end of it, there are 4 great pillars of *Ionic* work. The moſt eaſterly of the two ſoutherly, which are of marble with long veins of a whitiſh and bluiſh or darkiſh colour, a little above the *Torus* or circle, at the end of the *Scapus* of the pillar, ſome 4 or 5 inches above it, where it is joined together with a circle of lead, the compaſs of it is 3 yards, 1 foot and half *Engliſh*.

You aſcend 25 ſtairs e're you come to St. *Peter*'s, each ſtair is about ſix inches deep.

The breadth of the middle iſle of the church is 28 yards 8 inches, from the outermoſt and inner end of one pillar; anſwerable to it was the loweſt pillar of all. The breadth of one of the out-iſles 18 yards wanting 9 inches. The breadth of the pillar, that ſtands in the midſt of the church, is included in this ſum. The other iſle hath the ſame breadth. Beſides in the ſides of theſe walls of theſe iſles, there are little iſles 5 yards broad with altars. There are 4 of theſe of a ſide, till you come up to the cupola.

The *Porta Sancta* at St. *Peter*'s between the jambs on the upper ſtep to the outward part on the floor of the uppermoſt ſtep,

ſtep, 3 ſtaffs 2 feet $\frac{125}{1000}$. The great gate, which is the middlemoſt of the 5 and of braſs, wrought with an hiſtory, taken upon the uppermoſt ſtep in the ſame manner, 3 ſtaffs 2 feet $\frac{235}{1000}$. The breadth of the *Plinthus* next to the *Torus* of the right half pillars without in the frontiſpiece of St. *Peter*'s (of each ſide of which there are great arches to paſs through, with two flat pillars a piece with *Corinthian* tops) 3 ſtaffs $\frac{135}{1000}$ and alſo 460.

ROTONDA.

At the *Rotonda*, the meaſure of the four great pillars within the *Porticus* of *Agrippa*, the firſt of the two at the left hand as you go in, and the neareſt to the great braſs door of the church itſelf, within 6 inches of the bottom of the *Torus*, is 5 yards 2 inches. The next behind that on the ſame ſide is 5 yards 2 inches. On the other ſide, the firſt and nigheſt to the great doors of braſs is leſs a little than 5 yards. The next behither that on the ſame ſide is 5 yards 2 inches. There are 14 of theſe pillars in all, 8 in front, 2 at each end, and 4 in the middle; theſe four I meaſured. There are beſides four great ones of the ſame height, but theſe are flat, and have 7 *Stria*'s a piece, or canals in each of them, and *Corinthian* capitals as the round ones. The

breadth

breadth of them, within 6 inches of the bottom, is 4 foot 9 inches; where they anſwer to the round ones, and almoſt ſo for the reſt. There are 14 ſetts of theſe flat pillars; and the top of the door is of the ſame height with all the pillars, and *that*, with the ſides of the door, is all of one ſtone; which is wonderful. The diſtance between the columns is 3 yards 10 inches a little above the *Torus*'s (ſome 6 inches) ſo is it between the round ones and the flat ones; only at the entrance the diſtance is 3 yards and a half, or an inch or two more. For the height of the whole column with the *Epiſtylium*, the line fell on 60°; without the *Epiſtylium*, the line fell on 64° $\frac{5}{10}$. The diſtance for both 23 yards 6 inches. The thickneſs of the *Plinthus* 1 foot 9 inches; ſo for them all. The breadth of the whole great ſtone at the doors, as you enter the church, 8 yards 4 inches. The breadth of the door 6 yards and a half. The ſides of the arch before this great door is 5 yards 1 foot. In this ſide are two half pillars; the diſtance between them is 2 yards 4 inches. So is the other ſide (the arch a top hath 5 great ſquare pannels in it deep) and ſo is the great ſtone from the angle to the ſides of the doors. Between theſe flat pillars, and ſo for the door, there

are

are two ſtones at a diſtance one from the other, in which is a handſome relevy of carv'd work. They are in all eight, and a little corniſh at a diſtance below the 4 lowermoſt.

The breadth of the *Porticus* to the inner ſide of the pillar without is 20 yards. The length from the ſides of the two inner pillars is 33 yards. The ſecond of the flat pillars ſets off from the great flat whole pillar 22 or 23 inches. The next ſets off from the wall about 7 inches, or a little leſs. Round over all theſe pillars, within and without, there goes a pilaſter corniſh of vaſt great ſtones. On the pavement there are ſeveral vaſt ſtones, each of 4 paces the diameter. The deſcent is 12 ſteps, each ſtep 6 inches, by which you come into the *Porticus.*

The pillars in the *Rotonda* are, within ſix inches of the *Torus*, 4 yards wanting 8 inches. I did it by a line. They did all well agree, unleſs two or three.

The porphyry ſtones in the pavement are in ſome places broken. I made choice of the beſt, and found them to be ſo equal for the breadth, that I did much wonder; yet in ſome I found a little difference, not worthy the noting.

The

The right hand in the church of the *Rotonda*, the ſpace 2 ſtaffs $\frac{14}{1000}$ between the two firſt round pillars on the ground; the compaſs of the pillars 3 yards 2 feet, within two inches of the bottom. The pillars for bigneſs agree pretty well. The *Intercolumnia* differ more in 6 that I meaſur'd.

There are three caves or hollows for altars in the *Rotonda* of a ſide, beſides the high altar and entrance at the door, which are of the ſame height. There are two pillars in each hollow; a corniſh goes round the church within. Above there are open ſquares, and above thoſe another corniſh.

Church of *Santa Croce.*

At *Santa Croce* at *Rome*, there are theſe relicks, which I had the favour to ſee.

I. St. *Thomas* the Apoſtle's finger.

II. One of the nails of the croſs. The nail was long, the head of it as great as thoſe of ſome gates, which I have ſeen, and thick. It was $\frac{1}{4}$ of an inch, in the the diameter of the head.

III. One of the thirty pence; it had a round, great and perfect face. It might weigh, by conjecture, near 1*s.* 6*d.*

IV. The

IV. The wood, on which was the inſcription of the croſs. The wood was very antient, and had ſome letters plain; the reſt not legible. It was eaten with worms, by reaſon of its antiquity.

V. Two thorns of the crown. Theſe are very like thoſe I have ſeen growing at *Cairo*, and brought from thence. The *Venetian* Doctor of phyſick told me, he ſaw the ſame growing at mount *Sina*; and that the monks there had a tradition, that the crown of thorns of our Saviour was made of the ſame kind of thorn. The thorn was nigh two inches in length; I have ſeen much longer and ſhorter growing in *Egypt* of the ſame kind.

VI. Three pieces of wood of the croſs. Theſe thro' the chryſtal ſeemed white, like ſome kind of rotten wood.

St. *Sebaſtian*'s church.

Supra hoc Altare ſunt hæ Reliquiæ.

Veſtigia pedum Domini noſtri Jeſu Chriſti in Lapide impreſſa marmoreo, quando apparuit Petro interroganti, Domine quo vadis?

In loco eodem nomine nuncupato, Columna, ad quam alligatus ſanctus Sebaſtianus fuit ſagittatus, &c.

See the reſt in the painted picture printed.

The

The high altar in the church ſtands to the weſt. Below the altar ſtands to the eaſt of St. *Maſſimo* (there is *Sancta Lucinia* alſo above as you go out) below is *Sancta Lucilia*, which is carried away. The bodies of St. *Peter* and St. *Paul* are below; and under the altar a well into which their bodies were thrown. There is the ſtone with little holes made by St. *Peter*'s tears, when he denied our Saviour; as alſo the ſeat and the blood on the ſtone, where St. *Stephen* was beheaded. Above you have this inſcription:

In hoc Loco, qui ducit ad Catacumbas,
Corpora S. Apoſt. Petri & Pauli in Puteo
Sub Altari aliquandiu jacuerunt; ob quorum
Veneratiõnem eadem ſingulis diebus
Conceſſa eſt Indulgentia, quam
S. Silveſter Papa in Eccleſiis ipſorum
Apoſtolorum eſt largitus, eandemque ſucceſſores
Ejus in Feſtis duplicibus
Et in Quadrageſimâ duplicarunt.

In the ſame place is an inſcription, *ex cap.* CVIII. *Lib. Revelationum S. Brigittæ. Frater iſte miratur*, &c.

In

In the Capitol.

'Quod in malas Adulatorum artes ſanci-
'tum fuerat, id ne Civibus de Republicâ
'præter morem meritis officiat, atque adeo
'in ingratum vitium ducat Aſſentationis
'Fuga; viſum eſt Senatui Populoq; Ro-
'mano, aſſentiente Principe, vetus Decre-
'tum moderari, atque amoto lapideo De-
'creti monumento aliud his conſignatum
'verbis reponere: Infamiæ nota inurendos
'tantummodo eos, atque a publicis officiis
'removendos, qui ſine cauſa maximum
'Reipublicæ commodum utilitatemq; re-
'ſpiciente, de erigendis ſtatuis aut inſigni-
'bus viventi Principi, aut ſanguine conjunctis
'in ſenatu verba fecerint. Non autem illos,
'qui vel aucta ditione vel ſervato populo,
'vel re quapiam in commune bonum, ſed
'ſupra communem modum geſta meruiſſe
'poſteritatis memoriam videbuntur.

'Die 26 menſis Junii 1634.'

CONSTANTINOPLE.

IN *Conſtantinople*, *Sancta Sophia* ſtands S. E. and N. W. for the length of it; and the place, which ſeems anciently to have been the high altar, is at the eaſt end of

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of the church, or rather ſouth-eaſt by my compaſs. The length of the inſide of it from wall to wall is of my paces 96. The breadth of the church is 70 of my paces. The place, where I meaſured it, was at the fair gallery above, where the Chriſtians, with gifts, may be permitted to come. I likewiſe meaſured the breadth of the church or length of the gallery, at the weſt end, with a line of 10 *Engliſh* yards, 7 inches and half. The breadth there contained ſix of theſe lines, and 5 yards wanting 5 inches, that is, 198 feet, 4 inches; which was 70 of my paces: in this breadth I include the gallery, for the breadth of the church above, taking it from one pillar to the other, is 3 lines or ropes, 4 yards, and 2 feet wanting 1 inch and half, that is, 105 feet, 9 inches; to which, I ſuppoſe, the breadth of the weſt end below exactly anſwers in the body of the church. The inner ſides meet at the top in a cupola. The gallery of the weſt ſide is 9 inches and half of my paces; on the north ſide, 20 of my paces; and ſo on the ſouth ſide.

Sancta Sophia, for the grace and beauty without, is not to be eſteemed; within it is beyond expreſſion, in the richneſs of the pillars; in the *Moſaic* work, to which that of St. *Mark*'s in *Veniſe* is not comparable; in the lining of the walls with great and fair tables of marble all over the church; and in paving

paving of the gallery above with fair white marble, with ſtreaks of a *Subniger* colour. I could not obſerve any figures of men or angels in the *Moſaic* work, unleſs the *Turks* have deſtroyed them, as the *Moſaic* work, for very great ſpaces is decayed; yet much is left, moſt glorious in the gold and colours. Moſt of the pillars are of a green ſerpentine colour ſpotted.

The *Turks*, for the building of their *Moſchs*, have a very graceful faſhion. The entrance of the door is north: oppoſite to that is a little hollow place, much like that, where a great ſtatue might ſtand. There the prieſt reads the law; and they pray with their faces to him, or rather towards *Mecca*, which, in reſpect of *Stambol*, lies ſouth eaſt.

In *Sultan Ahmet*'s church, father to the preſent *Grand Seignor Sultan Morat*: The breadth of it, from north to ſouth, is 64 of my paces; and ſo from weſt to eaſt. The great *Cupola* ſtands upon four very maſſy pillars, to which at eaſt and weſt, and at north and ſouth, are adjoined half *Cupola*'s, which open towards the bottom of the great one; ſo that they ſeem to make a kind of croſs. At each angle is adjoined a round *Cupola* leſs than thoſe half ones; ſo that the church on the floor is ſquare, and you may walk about

the four great pillars; but at top you ſee all and in five whole *Cupola's*, and four half ones. At the north end of this church there is a fair court with pillars. The *Tectum* of the walk is made with ſeveral little *Cupola's*, very handſomely covered with lead. To the church are 4 high turrets gilt belonging, and two not gilt at the north end of the court. Beſides there are tombs, an alms-houſe, and in the midſt of the court a handſome conduit, beſides many cocks at other places. The other churches are built in this manner, as *Sultan Salyman's*, &c. The gallery of the weſt ſide of *Sancta Sophia* is 9 ½ of my paces; on the north ſide 20 of my paces; and ſo on the ſouth ſide.

From the *Seraglio* point to *Scutari* point, which ſeems to be a mile, when the water is ſmooth and the wind quiet, you may hear a man ſpeak from *Aſia* ſide to *Europe* ſide diſtinctly, and with a loud voice return him an anſwer.

This I heard confirm'd by Signior *Dominico*, the *Engliſh* ambaſſador's ſecretary, a *Greek*.

The *Turks*, in placing of their tents, obſerve this order. All the *Baſhaws* and commanders have their tents opening to the *Grand Seignor*; the inferior ſoldiers tents open to their *Baſhaws*.

In

In the *Turkiſh* army, there are not uſed any armour for defence, unleſs coats of mail. They have no pikemen, nor their horſemen any perronels; only the horſemen uſe a long lance, which with great agility they can dart, or throw it in their hand, from one end to the other of it. They alſo have their torpooze, their battle-axe, their bow and quiver of arrows, and their ſcimitar. The foot carry their ſcimitar, their musket (which is generally ſhorter than our's) their bags of powder and ſhot, in which their charge of powder and ſhot is made up together in a paper, ſo that they can more quickly charge and diſcharge than the Chriſtians. Their tents, and the ſoldiers apparel are far beyond the Chriſtians; only, in placing of their tents, I ſaw no good order; nor do they make any kind of trenches, though, it may be, they keep their ranks, and make tents, when they are near the enemy. The great men's tents have a kind of pole of cloth or ſtuff, round in this figure. Within is the pavilion, and four or five convenient tents of ſilk and ſatten, with carpets cuſhions, and curtains. The outermoſt is ſquare, and ſtands upon pillars. The next to this is round, and had two coverings over it. The third is

long, where there were ſcrivans, and where the captain *Baſhaw* or *Vizir* gives admittance to ambaſſadors that ſalute him, before he goes. Within is another tent, and there he had his prayers. He kept chickens about his tents; for what uſe, I know not. The King uſes, when the army moves, to change his tent every day; ſo he hath two, whereof one is carried before the army to the next place or ſtage, where the army reſts at night. When he comes thither, the other tent is carried to the next ſtage, *&c.* A top of the *Grand Seignor*'s tent, and the chief *Vizir*'s, there were gilt balls; and, it may be, on ſome others. Theſe, I obſerved, when the ſun ſhined upon them, and we rowed on the water, to twinkle as the ſtars do. It may be from hence ſome reaſon may be gathered for the twinkling of the ſtars. In the captain *Baſſa*'s tent there were in many places, wrought with ſilk *Turkiſh* words; in Engliſh, *Be bleſſed, be happy.*

The hiſtorical pillar, or *Theodoſius*'s pillar, as it is conceived, ſtands upon a double baſe; whereof the lower, and ſome two feet above the ground, is of white marble, and is about a yard wider than the ſecond baſis. The ſecond baſis is ſix yards in length, 25 inches. I meaſured the lower part of the baſis, where the pictures immediately

begin:

begin: at the top of which is a great round ſtone, and a top of that the pillar or column ſtands, juſt like thoſe two in *Rome* of *Trajan* and *Antoninus*. I meaſured the eaſt ſide and the north ſide, which exactly agreed.

At *Conſtantinople* from a *Jew* ſent on purpoſe:

$\frac{31}{32}$ of the *Conſtantinople* great *Pike* maketh the ſmall *Pike* of *Conſtantinople*. Fifteen of theſe ſmall *Conſtantinople Pikes* make ten of the *Perſian Pikes* or *Ariſhes*. One thouſand drachms *Turkiſh* make ſeven hundred *Perſian*.

Sultan Morat, a juſt and wiſe prince, and of great courage, reigned at my being at *Conſtantinople*, in the years 1637 and 1638. He was tall of perſon and well ſet; his countenance ſtern and ſallow; his beard broad and very black. He died after his return from the taking of *Bagdad*; I ſay, he died by adding to his other infirmities, (which were the *Sciatica*, &c.) on his birthday, a ſurfeit of drink *January* the 29th, or rather 30th, 1639. *Styl. Angl.* (if you begin the day with the night after their manner) at the beginning of the night, and was the next day buried. His ſucceſſor is *Ibrahim*

of twenty ſix years, his brother by the ſame mother.

The *Greeks* uſe penance four times a year, and ſo often confeſſion; but they neceſſarily enjoin it but twice a year, and the times are at the end of the four lents. The penance commonly is a faſt ſuch a day, *&c.* and the ſaying of ſo many prayers; the having of ſo many maſſes ſaid for him; the redeeming of ſlaves; the marrying of virgins, *&c.* Μετάνοιαι the *Greek* beads are called, on which they ſay for every bead, Κύριε ἐλεήσον. This they do voluntarily, and not by way of penance. Thoſe that live in monaſteries ſay, every day at night or day, Κύριε Ἰησοῦ χρίςε υἱε καὶ λόγε τῦ Θεῦ ζῶντος ἐλεήσον με τὸν ἁμαρτωλὸν. This they do three hundred times, ſtriking their heads againſt the ground.

Their prieſts, ſuch as live in pariſhes, muſt firſt be married, e're they can be made prieſts, but are ſuffered only to marry once. Such as are prieſts in monaſteries, are not ſuffered to be married; but if they be before, with mutual conſent, they may live aſunder in monaſteries. Theſe prieſts are called Ἱερομόναχοι, and do no work. The reſt of the monks, letting aſide their riſing at midnight, when they have a prieſt, are merely as our husbandmen; living together unmarried.

The

The *Greeks* uſe, for their pictures in their churches, to mix the colours with the yolk of an egg. I have ſeen, in *Italy*, the white of an egg beaten very thin, and rubbed upon a picture to revive the colours, and preſerve them.

EGYPT.

AT the riſing and ſetting of the ſun in *Egypt*, eſpecially about *Alexandria*, there are ſtore of vapours, which appear. Thus eſpecially in the afternoon, at a good diſtance from the horizon, you ſhall often ſee the body of the ſun to grow ruddy, and appear bigger than I have ſeen it in *England*. It was but few nights, and thoſe when there were little winds ſtirring or none, that I could ſee the ſtars near the horizon. The reaſon, I ſuppoſe, may be, becauſe, when the winds blow, they raiſe ſands; which often makes the sky to look, as when it is hazy weather in *England*.

I remember, in my paſſage from *Balac*, it blew hard from the weſt or north weſt. It raiſed ſuch ſtore of ſmall ſands, which were carried from *Africa* ſide to *Shimoon* over the river, as much hurt my eyes, when we walked. I thought in the morn it had been dusky weather from va-

pours, till I found, the mid-day being ſomewhat clear (tho' then they hinder'd the ſun ſomewhat) that, two hours before ſunſet, the ſun begun to be ruddy, and not long after was quite loſt, as in a night.

The diameter of the ſun, taken *January* 25, *Styl. Vet.* 2 H. $\frac{40}{120}$ P. M. and again paſt 4 H. P. M. 35.' 25." The croſs ſtaff ten foot. A ſurer way of taking it is through a little hole in glaſs, into a room darken'd. I hurt my eyes (and ſo did my *Frenchman*) with gazing againſt the ſun; inſomuch that for ſome days after, to that eye, with which I obſerved, there appeared as it were a company of crows flying together in the air at a good diſtance. At the firſt, I did verily believe I ſaw a company of crows flying in the air.

January 29, *Styl. Vet.* 1638. about 5 H. P. M. the ſun being immers'd in vapours, and of a fiery colour, I obſerv'd again, and found the ſame diameter.

The *Turkiſh* and *Arabian Biram* at *Alexandria*, 1638, *Engliſh*, *January* 25th *Styl. Vet.* begun at night; ſo that the firſt day of the *Biram* was the 26th of *January*, *Styl. Vet. Saturday*. As ſoon as the moon appeared, the three caſtles ſhot off their ordnance.

The

The altitude of the moon, a little after the ſun ſet, was 13°.

The feaſt for the taking of *Bagdad*, 1638. *February* 4th, *Styl. Vet.* began upon *Friday* (ſo the *Turks* commonly do) and continued 5 days with lights all nights, muſic, the *Berars* open, the ſhops richly hung, and the ſhop-keepers keeping all day and night in their ſhops.

The *Turkiſh* and *Arabian Biram* 1639. began on *Wedneſday* night, *April* 3d, *Styl. Vet.* at *Alexandria*. On *Thurſday* morning *April* 4th, being the firſt day of the feaſt, which continues three days, the caſtles ſhot off their ordnance, about ſeven o' clock or paſt.

The *Jewiſh* paſſover begun on *Monday* night, the 8th of *April* 1639. at *Alexandria*; ſo that *Tueſday* was the 15th of *Niſan*, which is the 9th of *April*, *Styl. Vet.* Asked of many *Jews*.

At this day there are but four channels or *Oſtia* of *Nilus*; two natural, *Damietta* and *Roſetto*, which make the *Delta*, and part ſome 20 miles below *Cairo*; two artificial ones, the one on the ſouth ſide of *Alexandria*, and hath its beginning ſome 30 miles above *Roſetto*. By this all merchandiſe antiently was brought to *Alexandria*, which now comes from *Roſetto* by *Giermas*, with much

much uncertainty, by reaſon that *Bacca* of *Nilus* is very dangerous, both becauſe of the N. W. and N. N. W. winds, which bar in all the ſhips; as alſo for the ſands and ſhallows. At the overflowing of *Nilus*, good ſhips may paſs. The other artificial channel is at *Boulas*, where it falls (in the *Delta*) into a *Sinus* of the ſea, that is in the mid-way between *Roſetto* and *Damietta*, and is like to that *Sinus* at *Madyia*, which is in the mid-way between *Alexandria* and *Roſetto*. The diſtance between *Damietta* and *Roſetto* is one day's journey, by ſea to *Boulas*; and from thence, in a day and part of a night, they paſs to *Damietta*. Between *Alexandria* and *Roſetto*, is ſome 40 *Engliſh* miles. About four in the evening, and ſeven or eight in the morning, I have rid it upon an aſs, and reſted at *Madyia* ſome three or four hours. The *Egyptian* horſes, as likewiſe their aſſes, are ſingularly good.

Roſetto lies off *Alexandria* eaſt and by ſouth, and is a pretty large town ſome three miles above the mouth of *Nilus*. A little above the mouth there is a little caſtle, ſquare, with artillery.

The courſe, as well as I could obſerve of *Nilus*, allowing for the often turning, is S. S. E. And ſo was it the opinion of the maſter of a ſhip, that went with me. Where-

fore

fore *Memphis* and *Alexandria* cannot be in the ſame meridian, nor *Rhodus*; for from *Rhodus* they ſail S. S. E. to *Alexandria*.

In my journey to *Roſetto* we paſſed from *Alexandria* near the ſea, and ſaw not far from *Alexandria* the ruins of two or three places. The firſt place of note is *Duken*, fourteen miles from *Alexandria*. Some two or three miles out of the way, the caſtle ſtands upon a tongue of land, and hath a guard of forty ſoldiers. North of it two or three miles is a little iſland or rock, and ſome little rocks are near the caſtle. It is not ſafe for ſhips to come near, by reaſon of the flats. From thence to *Madyia* (or the ferry) over an inlet of the ſea, on the eaſt ſide of which cloſe by the water ſtands an inn, is ſix miles. From thence to *Roſetto* you ſee no town, or village, or houſes. Between *Madyia* and *Roſetto* is twenty large miles, longer than between *Alexandria* and *Madyia*. After ſome fourteen miles travelling by the ſea ſide you turn up S. E. for *Roſetto*, and are guided through the ſands by pillars of brick, that are ſome ten or eleven of them, which they make half a mile diſtant a piece. I meaſured one, and found it but ſix hundred of my paces, *i. e.* three hundred geometrical paces.

From

From *Roſetto* I paſſed up in a ſmall boat to *Cairo* in four days; (twice I did it) the wind being reaſonably good, and ſailing ſome part of the night. I came down in leſs than two days and two nights.

Up the river there are many ſmall villages on each ſide, but made of dirt, that they are not worthy of the mention. In the mid-way between *Roſetto* and *Cairo* is a poor little village, called *Selamoun*, on the weſt ſide of the river. From thence you keep your courſe, till you come to ſee ſome white ſandy little hills. On the ſide of theſe, for ſome 10 miles, you ſail eaſt and by ſouth. Being clear of theſe, and on land ſome 3 miles from *Shumoun*, you ſee the Pyramids, which lie weſterly of it, and may be 50 or 60 miles off.

The branch of the river, that leads to *Damietta*, is 18 miles from *Bolaco*, and lies north of the Pyramids.

North and by eaſt of *Cairo*, near the *Calis* ‡, is a village called *Shaachan*. At the point was an excellent place for a caſtle.

Three miles below *Motobis*, on the eaſt of *Nilus*, is a *Calis*. This *Calis* goes to ſome villages only up the country. Three miles below this *Calis* is *Berembal*, a large village. Half a mile from the water, a little

‡ Or Canal.

little below that, towards *Roſetto*, is the *Calis*, that goes to *Brutis*.

Upon a wager, the *Moors* go, between *Roſetto* and *Cairo*, on foot in 24 hours. So from *Roſetto* they go to *Alexandria*, and return back to *Roſetto*, in fourteen hours, or in one day. On the weſt ſide of *Roſetto*, and ſo running along ſouth eaſt from the town cloſe by the river, there are ſandy hills. Upon one of them is a ſquare town, which may be ſeen a good way off.

ALEXANDRIA.

Anno Domini 1638 *Menſe Decembri.*

Declinatio Acus Magneticæ à Meridiano Alexandriæ Occidentem verſus, è multis obſervationibus iiſq; accuratis 5°. 45′.

The altitude of the pole at *Alexandria* 31°. 10′. *N.*

[*In other places of his Manuſcript our Author makes it* 31°. 5′. *and* 31°. 3′.]

Poſidonius, as *Cleomedes* writes, obſerved the altitude of *Canopus* at *Alexandria* to be ſeven and an half: he obſerved it there to be but ſix degrees and almoſt an half. *Snellius* ſuppoſes the altitude of the æquinoctial at *Alexandria* to be 58°. 58′, and ſo the pole to be raiſed there but 31°. 2′.

The

The obliquity of the *Zodiac* in 1639, 23°. 30'. 15".

The colours of the planets and of the ſtars in *Egypt* are not different at all from what the ancient Aſtronomers obſerved, and from what we ſee in *England*.

I could obſerve no ſpots in the ſun for ſeveral weeks together in the latter end of *January*, *February*, and *March*. On the 5th of *April*, *S. V.* 1639, three little ſpots in the ſun, whereof two cloſe together.

Towards the ſouth ſide of *Alexandria*, ſtands the faireſt pillar, which, I ſuppoſe, is in the world, ſome half a mile or leſs out of the town upon a little hill or riſing of the ground. The altitude of it, together with its *Stylobata* or *Baſis*, is 70 *Engliſh* feet. The *Epiſtylium* or *Capitatum* 8 yards 2 feet. The *Scapus* or *Columna* itſelf $\frac{700}{1000}$ the compaſs, including the *Spira* or *Torus* at the bottom of it. The *Columna* or *Scapus* hath one circle at the top and two at the bottom, where, with a thin plate of lead, it is joined to the *Plinthus*, or third circle of the *Plinthus*. Theſe five circles proportionably increaſe bigger and bigger, and ſtand farther out till the laſt comes almoſt to the outſide of the ſquare of the *Plinthus*. Between the laſt circle and the fourth, there is an hollow of ſome 9 inches

9 inches diameter. The *Stylobata* is the greateſt and faireſt that I have ſeen; the breadth of which is ſome 4 feet; above the bottom that is next to the ground, I meaſured on the weſt ſide, where it is little decayed; it containeth 12 feet *Engliſh*, and $\frac{519}{1000}$ of a foot. Now if the *Engliſh* foot is proportion'd to the feet of the other ſtations, as *Smithius* hath done, then may this be a certain meaſure for other things.

To the weſt of the *Aguglia*, and not far off by the tower, there is a fair ciſtern, which contained two arches one above another (ſo are all that I have ſeen at *Alexandria*) the arches below were nine; the pillars, that ſuſtained them, were ſix of *Thebaic* marble, ſuch as the *Aguglia's*; not very long, but big. Atop of theſe ſtood ſix more to bear up the whole arch above, which was made of ſtone, now and then ſome bricks. In the two angles to the ſouth in the upper arch was a mouth ſemi-circle wiſe, with alabaſter holes to go down. The walls were of fine white plaiſter, and entire. Some I have ſeen with three arches one above another. The lower arches are above two feet broad, and paved with bricks, ſo that one might well walk upon them.

CAIRO.

and a ribbon about the middle of the head yellow, hanging behind. At the top of the head, a circle all yellow within. The arms of this woman ſtretched from beyond the firſt of the yellow pieces beyond the laſt, and ſeemed to hold two clubs. The hieroglyphics were an eye, an owl, a ceraſtes, a thing ſitting like an ape (an Idol, I believe.) Down along in the midſt of the belly, ſome 13 inches long, and almoſt two broad, there was another piece deſcending downwards, full of hieroglyphics. The ground yellow; of each ſide two little broad lines (and ſo at the end) chequer-wiſe, blue, red, white, black; in the midſt between theſe hieroglyphics, a ceraſtes, *&c.* On the right ſide, there were two large chards, as it were, with two women with blue caps and waiſtcoats; their petticoat red, before yellow, without any gatherings; holding a red thing in both their hands together; the top of which was oval, and in the midſt a whiteneſs. At the top of their heads, each had a yellow circle. On the left ſide two other chards, ſtanding at a little diſtance one from another, and in theſe two dog's heads, ſtanding upon the bodies of women; the apparel and every thing like thoſe of the two women before. The faces of the dogs ſtood oppoſite to the faces of the women. All theſe four ſtood upon one red leg a

piece.

piece. Under, or upon the knees, two women looking one upon another; their heads dreſs'd like the former; only the circles upon the head red, and the right arm bowed upwards, and the right finger touching theſe circles. Their poſture was ſitting upon the heels. They had but one leg a piece, and that yellow; the ground of all four an azure. Theſe pictures, with the gorget, *&c.* were tied on with browniſh lengths of cotton. Under theſe, the whole body had a covering of fine linen; I think, of cotton. It was painted with a kind of net-work, in this manner ◇◇◇. The upper two lines of the ◇◇◇ *Rhombus* yellow; the lower black. Theſe were joined together with yellow knots. This mummy had no papers on the feet; I think it was a woman, by the long ſcrolls down the belly. Under the ſcroll there was no painting. Under theſe linen or winding ſheets, infinite ſtore of ſwadling bands, ſome leſs, ſome greater, about the bigneſs between a penny ribbon and a two-penny. The coffer handſomly cut in ſycamore; the ground of the painting blue; a face at the top with a bob under the chin; the veil above the head hanging down, with long ſtrokes blue and yellow; the ears uncovered. In the forehead ſome hieroglyphics; below the bob under the chin, and the flap of both

ſides twelve handſome ſemicircles one above another, two fingers broad. Three, I think, eagles, with their heads ſtretched out, holding ſomething in their bills, if I be not miſtaken. Theſe twelve circles make a kind of breaſt-plate bigger than mine by much. Every one of them hath things like bells, and between every bell at the top yellow circles. —— Under theſe twelve, upon the bottom of the belly, as it were, are hieroglyphics: down upon the thighs and legs, and down along the ſides to the bottom of both ſides of each cheſt, ſo upon the feet, and at the top, or at the toes of the feet: on the feet two grey-hounds upon two roofs, as it were, of houſes, for there were, as it were, doors below. The dogs look'd one towards another, with their fore-feet ſtretched out. In the ſides, each had two men with hawk's and dog's heads, made up like mummies, and wrapp'd about. The left ſide had

1	2
a man	a man
a dog's head	a hawk's head
a hawk's head	a man
with a man	a dog's head
a man	

in

in a line running down: between it was full of hieroglyphics. The right ſide of the firſt was as the firſt of the left ſide; the ſecond differed, and was defaced.

The *Arabians* and *Moors* uſe much witchcraft at *Cairo*. The conſul *Santo Saghezzi*, in whoſe houſe I lived, ſent for ſome of thoſe men to know his diſeaſe, being of opinion, he was bewitched. He, to try one of the chiefeſt of them, asked concerning the *Venice* conſul, whether he were gone from *Venice*, and how many ſhips there were; of both which the conſul had receiv'd advice by letters. He told him the time and number exactly. Then inquiring of his diſeaſe, he told him it would be mortal; but to prevent witchcraft, he would give him ſome characters, which he ſhould wear in his hat. The ſame man, and ſome others of them (the conſul's ſon, ſeignor *Alexander* being preſent, who told me the ſtory) cauſed a cat to ſpeak before him; and uſing ſome kind of charms, he bid ſeignor *Alexander* to hold his hand over a pan, where preſently his fingers were cauſed to ſpread open, and his hand and arm forced behind his neck. Two hours before his death, his ſon and *Nicolo Saghezzi*, a kinſman and brother's ſon, took thoſe charms out of his hat, and went into the next room over-againſt him, in which I uſed

to lie. There the devil came to *Nicolo*, in the form of a *Blackamoor*, and took him by the throat, requiring thoſe charms and papers he took away. Upon which out of fear he grew ſpeechleſs, pale and ſweating. This continued a pretty while, till ſuch time as ſeignor *Alexander* fetched ſome rich reliques, which I ſaw. Then the devil went out of the chamber, and ſeignor *Nicolo* followed him to the ſtairs. This ſtrange ſtory both of them, at my return to *Cairo*, confirmed to me before many.

Joſeph's Well at *Cairo*.

THIS ſtands in the caſtle at *Cairo*, and is long and hollow ſome nineteen of my paces; broad ſome ſeven or more; deep to the place where the oxen draw up water about 210 times $\frac{720}{1000}$ of an *Engliſh* foot. They ſay it is the ſame depth to the water of *Nilus* below; I think it is more. Down to this water below there is a deſcent different from the other. Becauſe it was narrow and ill, we went not down, but threw down fire to ſee the water below. About this ſame hollow from the oxen above to the oxen below you go down by ſtairs, that deſcend about of all ſides of the hollow in the manner almoſt as the wood-ſtairs are, that go to the library at *Oxford*. Theſe ſtairs are cut out of the main rock; and ſo is the hollow

about

about which they wind. The thickneſs to that hollow is about $\frac{750}{1000}$ of an *Engliſh* foot. So is the depth, as near as I could gueſs, of each ſtair. The number of the ſtairs from the oxen above to the oxen below are ſome 210. At the oxen below they ſay, there is an hole made, that goes to the Red-ſea. The top of this ſame well or mouth is made of ſtones brought thither for a pretty way, and it hath two wheels, that ſtand upon arches over the hollow of the well for oxen to turn round in.

MEMORABILIA.

At *Cairo* in a *Frenchman's* houſe I have ſeen a calf with two heads, which lived a month.

He had the ſnout of the *Rhinoceros* with two horns. He had many of one horn, which is about ten inches long, five inches about, ſomewhat black; and ends in an obtuſe point.

He had many *Ceraſtes*, which he could take in his hand, open their mouths, and they would not hurt him.

He had many four-legged ſerpents, blackiſh, with long knotty tails, ending in a point obtuſe. Theſe are ſomething like the crocodile, but differ in the head, and tail, and skin. Theſe ſerpents, when the weather is hot, would, upon muſick, come out, and run upon him; but in the winter they lie as

dead. Yet ſome of them will ſcramble a little and move. Of all muſick they love the bag-pipe beſt.

He had vipers, whoſe mouths he would open with his hands, and ſhew little bags under every tooth.

He had conies of *Habaſſia*, or *Preſter John*'s country, bigger than ours, and much different in ſhape, without tails.

He had a duck of *Habaſſia* much bigger than a great hen, the legs longer than a duck's; the bill, the feet, the feathers, reſembling a duck. This he called his dog; for when ſtrangers came in the night, he would make a noiſe, and, whilſt I was there, look what we did, and keep as it were ſentinel at the ſtairs.

He had a piece of the skin of the *Hippopotamos*, which was wonderfully thick and ſtrong. The beaſt he made to be as big as an elephant. The skin was an inch and quarter thick. They beat their ſlaves with it.

He aſſured me, that the female viper, when they generate, kills not the male. Only twice he ſaw the female kill the male in generating. The female is much bigger and ſtronger than the male, and takes the male ſometimes by the head, kills him, and eats him. The male, three days after the act of generation, uſed to vomit.

The

The place where they generate is the tail, and from thence the excrements come.

He ſhewed me an arm, which he took out of the ſands, where the *Greeks* ſay, once a year in *Egypt* the bones of dead men riſe. It was dried by the heat of the ſun, and put under the ſands by the *Moors*, who, gaining at that time by the Chriſtians coming thither, bring bones, and parts of dead men. He told me, he ſaw the *Moors* twice throw bones from under their veſts, and then cry, O look, here are bones riſen up!

He had a tame live crocodile, which he kept two years. This would come to him, when he wanted meat, lie under his bed, and do no hurt. It would ſometimes make a noiſe like a lion, like a man, and like an horſe.

He has often obſerved it to groan like a man, and to mourn as it were, but not to weep. It uſes to eat but once in ten or fifteen days, having a very cold ſtomach. In ſome that he hath diſſected, he hath found fiſh and birds, and fleſh of all kinds. *Ventrem ferunt* ſix months, he ſaith, and not ſixty days, as *Ælian* writes. The eggs are above 200, not 60, as *Ælian*; yellow, with a little skin. The nerves go ſtrait from the head. The *Vertebræ* are 60, and the teeth as many. He conceived by the growth, that they lived much more than ſixty years; and

that

He was bitten by his crocodile, by the ſcorpion, *&c.* ſo that the poiſon run up his arm, and it grew yellow. Laying a little of his powder or paſte, he ſenſibly felt the poiſon to be drawn out, as if a thing with force had been plucked downwards from the top of his arm to the ſtinged place.

The blood of a bat laid on young children hindereth ever after the growth of hair. This is uſed by the *Bedwins.*

MATAREA.

AT *Matarea*, a place ſome five miles from *Cairo*, north eaſt of it, as I remember; and about a mile from *Nilus*, beſides the *Aguglia*, there are other huge ſtones, that have ſerved for ſome great works. A quarter of a mile or leſs weſtward of the *Aguglia*, there is a great ſtone fallen down full of hieroglyphics. Amongſt others there were a little long-legg'd bird (I think, I ſaw one of them afterwards at *Cairo*) and figures of women or men. A quarter of a mile or leſs weſtward of this place, there are a company of vaſt ſtones. Amongſt theſe I found firſt the eye of a woman broken off, then the ear, *&c.* ſo that I conjectured it to be a ſphinx.

Half a mile to the weſt of the *Aguglia* or obeliſc, ſtands a ſphinx, with the face

to

to the north (that at the Pyramids ſtands with the face looking to the eaſt.) It is ſix of my ſtaffs long, three ſtaffs broad, all of one ſtone. It hath hieroglyphics on the breaſt (that at the Pyramids hath none at all) and on the ſide. The other ſide it was thrown upon, ſo that I could not ſee the characters.

Near *Matarea*, they dig wells in the fields of ſome ſeven or eight foot deep. At the bottom they find ſome fine white ſand. The top is the mud of *Nilus*, a black earth for ſeven or eight foot deep. So that *Herodotus*, I think, ſays right, that all, below *Memphis*, is *Donum Nili*. So have I obſerved in their banks of *Nilus*, upon the breaking of very great clods, that they have been all black for 14 or 15 foot, or more deep, juſt like the earth of theſe wells; and in ſome places, I have ſeen ſand in the bottom of the bank.

The Pyramids.

THE three Pyramids ſtand ſouth weſt and by ſouth almoſt in reſpect of the caſtle of *Cairo*, and *Joſeph's Well*; and in the ſame right line with the *Aguglia* at *Matarea*; for they ſhadow one another, ſo that only the firſt great one is ſeen. The altitude of the greateſt *Egyptian* Pyramid

is

is 490 feet *Engliſh*; that is, 3 $\frac{25}{131}$ of *Magdalen* College Tower in *Oxford*.

The baſis of the greateſt Pyramid is ſquare; one of the ſides is 693 feet; ſo that it is above twice as much as our Phyſick garden at *Oxford*; for the ſide, and the whole baſis is at leaſt eleven acres. The *Area* of the Phyſick garden is two *Engliſh* acres, and $\frac{2198}{4356}$ of an acre; 337 feet *Engliſh* the Phyſick garden is broad within on the eaſt ſide. The magnitude of the middle pinnacle of the ſouth ſide of *Magdalen* College Tower is 144 feet, by my iron quadrant; by my ſector it is but 141. The quadrant is the beſt obſervation.

The upper ſtone, at the entrance of the great Pyramid, is 3 feet *Engliſh*, and $\frac{440}{1000}$; the length of the chamber 10 ſtaffs $\frac{210}{1000}$ on the ſouth ſide; the breadth 5 ſtaffs $\frac{421}{1000}$ on the weſt ſide. The tomb ſtands north and ſouth. Nine ſtones a top of the Pyramid fifteen palms broad.

The *Venetian* Doctor told me, he hath ſeen a place on the mountains on the eaſt ſide of *Nilus*, where great ſtones have been cut out, as he thinks, for the Pyramids. So ſaith *Herodotus*. Twelve miles to the ſouth of theſe three Pyramids there ſtand many others, where of one is greater (the Doctor told me he meaſured it) than the greateſt of theſe three; the ſtones leſs; and

ſtained

ſtained to the top. So I think moſt of them have been. The entrance is on the north ſide in the middle. He ſays likewiſe he meaſured the middlemoſt of theſe three Pyramids, and finds it to be as big (or bigger and higher) as the firſt and great one. I confeſs, it ſeemed ſo to me. About this ſecond, there are cut out of the rock many chambers or vaults, with little low ſquare doors. Within ſome of theſe vaults, there is a ſtair or aſcent into another chamber, it may be. Over theſe doors in ſome of them, I have ſeen ſome hieroglyphics. So likewiſe to the north, in the walls I ſaw ſome hieroglyphics. All theſe vaults are cut out of the rock, and make two large ſides of a ſquare, anſwering to the north, and weſt ſide of this ſecond Pyramid, and ſeemeth to have made a goodly ſhew. I ſuppoſe it was a lodging for prieſts. Such holes or vaults, I remember, I ſaw not very far off from the *Sphinx*, in ſome of the rocks, and I know not whether any hieroglyphics. There have been near the leaſt Pyramid, I think, ſome houſes, and it may be for the reſt. I remember, theſe hieroglyphics, at the ſecond Pyramid, were not written downward, as the *Chineſe* write; but ſide-wiſe, as the Chriſtians and *Arabians* write. I ſaw only a line a piece.

Raleigh,

Raleigh, L. 2. Part I. c. 12. The tower of *Belus*, built by *Semiramis* 8 ſtories high; the firſt $\frac{1}{8}$ of a mile. Upon the top whereof the *Chaldean* prieſts made obſervations of the ſtars, becauſe this tower over-topped the ordinary clouds. The *Egyptians*, (ſaith *Proclus*, in *Timæo* L. 1.) inhabiting a low and level ground, and given to the ſame ſuperſtition of the ſtars, that the *Chaldeans* were, erected in imitation, and for the ſame ſervice and uſe, the Pyramids by *Memphis*.

POEMATA

POEMATA & EPITAPHIA

A

JOHANNE GRAVIO ſcripta,

Quorum pleraque nunc primum edita ſunt.

Sereniſſimo & Potentiſſimo Principi FERDINANDO II. magno Etruriæ Duci.

TYrrheni domitor maris, metuſque
Claſſis Barbaricæ nimis potentis
Regum diſſidiis, vagas per undas
Conſpirans fremit Africa, impotenſque

Vindictæ Libya incaleſcit irâ,
Captas à Venetis dolens triremes,
Claſſemque à Venetis dolens fugatam.
Hinc ſylvas ſpoliat comis virentes,
Pinoſque aëreas parat carinis,
Proriſque ære recurva roſtra cudit,
Et ventis ſinuoſa vela laxat.
Concurrunt Arabes opem ferentes,
Et dextras quatiunt graves ſagittis;
Diſtringit gladium acer undulatum
Maurus, quem exacuit manus Damaſci:
Nodoſum clypeum ferox Nigrita
Vibrat, crinibus horridus retortis:
Diſperſi Nomades, greges peroſi,
Armant ſpicula livido veneno.
Omnis barbara juncta vis reſurgit,
Ut major tibi fama ſit triumphi,
Patrum & ſanguine clarius trophæum.
Submerge, Oceano favente, puppes
Infames ſcelere, & ſacris rapinis,
Et dextrâ æquora vindica potente,
Dux magne, auſpiciis tuis pacata!

Alexandriæ ſcripſi, cum propter captas & fugatas paulò ante à Venetis Maurorum triremes, maria illa undique piratici excurſionibus infeſtarentur.

Sereniſſimæ

Sereniſſimæ invictiſſimæq; Venetorum Reipublicæ virtute bellica, pacis artibus, & literarum ſtudiis florentiſſimæ.

NEptuno ditata tuo, ditata trophæis
Ægypti, atq; Arabum, & ſpoliis, quæ [Græcia ſupplex
Miſit & Auſtriacæ librata potentia gentis,
Et toto Adriaco ſubmerſus barbarus hoſtis,
Afflictæq; acies: O unica gloria ponti,
Terrarumq; decus! quas aut victricibus [armis
Subjicis, aut facili legum moderamine flectis,
Imperio ſervire tuo cupit omnibus undis
Ganges, & læti capiunt tua juſſa Sabæi.
Cultor ab Eoo ſolis venit immemor Indus,
Poſthabitiſq; ſuis tua Perſæ templa frequen- [tant:
Cardine diverſo deſcendit erine retortus
Afer, & in laudes turgentia labra reſolvit,
Attonituſq; tuis ſpernit miracula Memphis.
Nec minus Arctoo ſub ſidere natus ad urbem
Appropera, ritus mirans & corda virorum:
Oceano impoſitas leges, & gurgite vaſto
Surgentes turres, cœloq; minantia tecta
Aereiſq; ſuis ferientia ſidera pinnis,

Naturamq; ipſa rerum molimine victam.
Quod ſi patricios proceres & nobile germen
Antiquæ ſtirpis Romano ſtemmate ductum,
Conciliumque frequens ſpectes, rigidumque [tribunal
Purpureoſque patres, O qualis imago ſenatûs
Occurrit priſci, dum crevit gloria Romæ.
Flagitia hic ſolis metuenda authoribus ipſis;
Nulla in divitiis ſceleri tutela, nec ullâ
Prodita fallaci virtutis præmia techná.
Sed jus faſq; vigens, atq; inviolabile ſacri
Arcanum imperii, auratas licet offerat undas
Ipſe Tagus, fulvos volvatq; ad littora fluctus.
Artibus his latè populos parere volentes
Tuta regas, ſeu tu vaſti regina vocari
Oceani cupias, & cærula regna tenere,
Seu tu devictis populis æquiſſima jura
Condere, & immenſi malis regere orbis [habenas.
Quicquid eris, Latiæ gentis ſpes ſola ſuperſtes,
Laude tua captum ne dedignêre Britannum.

In Cimices.

NON mare naufragiis ſævum, non perfida te lus
Barbara, non Libyæ ſqualentia monſtra [peruſtæ,
Non truculentus Arabs, non omni immanior hoſte
Turca

Turca mihi tantos potuere inferre timores,
Quantos deformis (Latii fædiſſima peſtis)
Cimex: illa elapſa juvat memorare pericla,
Præteritoſque metus eluſaque damna favente
Numine, ſed nullum numen compeſcuit iras
Cimicibus, diroſque animos, ſemperque paratos
Ingluviem humano turpem ſatiare cruore.
Gens ſæva, & latam ducens ignobilis alvum
Et fuſcos vultus medioque in ventre paludem
Fætentem, & qualem Stygiam finxere poetæ.
Non ignava tamen, vel fraudis neſcia turba,
Nam cauti exeedunt tectis, linquuntque receſſus
Occultos Phæbo ſplendente, cubilia noctu
Omittunt, acieſque ſtruunt, & ſpicula ſumunt.
Nox apta inſidiis, quibus, ah! ſi forte viator
Incidat oppreſſus ſomno, triſtique labore,
Invadunt taciti lacerantq; trementia membra,
Vulneribus figunt dentes & toxica linguæ
Infundunt, variæque edunt ſpectacula mortis.
Pars oculos rapiunt. Pars languida brachia carpunt.
Atque alii inficiunt tetro fætore meatus
Oris, corrumpuntque vias, queis ſpiritus exit.
Et volupe eſt aliis crura infeſtare ſagittis,
Aut dura effractis haſtilia pangere coſtis,
Et lætas epulas humana ducere carne.
Inter tot hoſtes ſupplex vocat omnia noctis Numina,

Numina, nulla tamen miſerantur numina, [demum
Implorat laſſus ſomnum, mortemque viator.
Sienæ 1639 *a Cimicibus laceratus ſcripſi.*

In Cauſidicos.

PUrpura Cauſidicos Tyrio tegit ebria cocco,
Sed muſas laceræ ſuccida lana togæ.
Venalis linguæ ſit quanta potentia, nullo
Hermes exemplo veriùs edocuit.

In Picturam Sampsonis a Dalila Philiſteis proditi; rogatu D. Fr. Urſatti nobilis Patavini.

CAſtra Philiſtæi qui ſolus terruit hoſtis,
Proſtibuli unius victus amore perit.

In Picturam Joſephi à laſcivâ ſua Dominâ fugientis. Ejuſdem Rogatu.

DUM fugit amplexus Dominæ formo- [ſus Ebræus,
Quid timet? an Dominum? non, timet [ille Deum.

Epitaphium eruditiſſimæ Hypatiæ Theonis Mathematici Filiæ.

NON mihi forma nocens, quamvis ſat [forma venuſta,
Ingenium

Ingenium atque artes conqueror ipſe meas.
Nam Pharia aſcendens doctiſſima pulpita, [paſſim
In me conſpirans invida turba ruit.
Invida turba ruit, qua non crudelior ulla,
Et laceranr ſævæ pectora mille manus.
Quid merui infelix? Famam vitamque de- [dêrunt
Muſæ aliis, fatum cur peperêre mihi?
Ah homines duri! fecit brevis una nocentem
Me ætas, vos facient omnia ſæcla reos.

Egregiam laudem ſi fœmina pluribus una
Succumbo manibus; vincite at ingenio.

Hoc
Patri ſuo chariſſimo,
Et matri ſuæ dulciſſimæ,
JOHANNI & SARÆ GREAVES,
Parentibus optimis, piiſſimis, meritiſſimis,
Johan. Nicol. Thomas, Edwardus Greaves
Filii poſuerunt.
An. Dom. CIↃ IↃC XLI.
Pro magnis meritis & dulci munere vitæ,
Vobis, cum lachrymis, ſola ſepulchra damus.

Sacræ

Sacræ M. *Saræ Greaves* viduæ
Cl. Viri *Joannis Greaves.*

IN cineres lachrymas, flores in marmora ſpargam,
Et figam cippo baſia mœſta tuo:
Dum triſtis memorem, matrum dulciſſima, (lucem,
Quam mihi tradideras, fata negâſſe tibi.
Infelix mea ſors, ſed tu felicior ibis
Ad cœlum, & meritis præmia digna feres.
Joannes Greaves F.
Matri B. M. P.

Quod ſupereſt
Clariſſimi viri
D. JOHANNIS BAINBRIDGE,
In Academia Oxonienſi
Publici Aſtronomiæ profeſſoris,
Sub hoc marmore clauditur.
Quod verò amavimus,
Quod ſuſpeximus,
Quod mœſti deſideramus,
Fruſtra hic quæras;
Illud cœlo, cui vivus animo
Cogitationeque incubuit,
Receptum eſt.

Obijt A. D. CIↃ. IↃC. XLIII,
IXbris. III. hora 6â matutinâ, Ætatis ſuæ LXII.

FINIS.

A

DESCRIPTION

OF THE

Grand Seignor's

SERAGLIO,

OR,

TURKISH EMPEROR's

COURT.

LONDON:

Printed for J. BRINDLEY, Bookſeller to his Royal Highneſs the Prince of *Wales*, at the *King's Arms* in *New Bondſtreet*; and C. CORBET, at *Addiſon's Head* over-againſt St. *Dunſtan's* Church, in *Fleet-*1737.

TO HIS

Honoured, and truly Noble FRIEND,

George Tooke, Eſq;

SIR,

I Durſt not have preſumed to a Friend of ſo much Honour, and Worth, to preſent this Deſcription of the *Turkiſh* EMPEROR's Court; but that finding

and Exactneſs: Which, in many Particulars, upon Experience he is able to atteſt, who is,

Sir,

Your moſt obliged Friend,

And humble Servant,

JOHN GREAVES.

The Name of the Author being then unknown, upon Inquiry I find it ſince to be the Work of Mr. *Robert Withers*; who, by the Favour of the *Engliſh* Ambaſſador, procuring Admittance into the *Seraglio* (a Courteſy unuſual) and, by Continuance many Years in thoſe Parts, had Time, and Opportunity, to perfect his Obſervations. To him therefore are ſolely due the Thanks of the Labour: to me it is ſufficient that I have faithfully diſcharged my Truſt, in publiſhing, ſince the Author's Death, the Fruits of his Travails; and in communicating to the Reader the Pleaſure and Satisfaction of peruſing a Relation full of Truth

The compaſs. and is, by computation, about three *Italian* miles in compaſs.

The gates. It hath many gates, ſome of which open towards the ſea-ſide, and the reſt into the city; but the chief gate (which indeed is a very ſtately one) is one of thoſe towards the city; and by it they go in and out daily; the others being kept ſhut, till ſuch times as the King, or ſome of the principal officers of the *Seraglio* cauſe any of them to be opened, either for their pleaſure to ſit by the ſea-ſide (where they have a fair proſpect, and may behold the ſhips ſailing to and fro) or for any other occaſion. Likewiſe, if any of the other land-gates be opened, it is either when the King ſendeth privately, to put ſome great man to death, or for the execution of ſome ſuch ſecret action; but they are all lock'd faſt in the night again.

Chief gate. The aforeſaid chief and common gate is in the day time guarded by a company of * *Capoochees*, which change their watch by turns, and in the night likewiſe

* Porters.

wiſe by others of the ſame rank; all which *Capoochees* are under the command of a * *Capoochee Baſhaw*, which *Capoochee Baſhaws* (being ſix in number) are bound, every week one of them, to lie within the *Seraglio*, for the ſecurity and ſafeguard of the ſame. And without the gate, about ten or twelve paces off, there ſtands a little houſe made of boards upon wheels, in which every night a company of *Janizaries* do watch, who, upon any occaſion, are ready to awake thoſe within, and to give them notice of whatſoever ſudden accident may happen without.

* Head of the Porters, an office of good credit.

Watch-houſe upon wheels.

In the night alſo it is well guarded by the ſea-ſide; for, in the watch-towers which are upon the wall, there be diverſe † *Agiam oglan's*, which are to watch and ſee that none come near; and, leſt any ſhipping ſhould dare to attempt ſome miſchief, they have ordnance ready charged, and the gunners lying cloſe by them.

† Of them you ſhall read more at large hereafter.

In this *Seraglio* there are many ſtately rooms, ſuited to the ſeaſons of the year; the greateſt part whereof

whereof are built upon plain ground; ſome upon the hills which are there, and ſome alſo upon the ſea-ſide, which are called *Kiosks*, that is, rooms of fair proſpect, or (as we term them) banqueting houſes, into which the King ſometimes goes alone, but moſt commonly with his concubines, for his recreation.

Kiosks.

Amongſt the aforeſaid rooms, is the chamber into which the *Grand Seignor* repaireth, when he is to give audience to Ambaſſadors, or to the *Baſhaws*, on the days of *publick Divan*, and to thoſe who being to depart upon any weighty ſervice, or employment, are to take their leaves of him; as alſo to ſuch who, after the limited time of their government abroad is expired, do return to *Conſtantinople*, to give account to his Majeſty of their carriage in their ſeveral places. This room ſtandeth in a little court curiouſly adorned with many very delicate fountains, and hath within it a * *Sofa* ſpread with very ſumptuous carpets of gold, and of crimſon velvet

Chamber of audience.

* A place raiſed from the floor, about a foot, to ſit upon.

velvet embroidered with coſtly pearls, upon which the *Grand Seignor* ſitteth; and about the chamber, inſtead of hangings, the walls are covered with very fine white ſtones, which, having diverſe ſorts of leaves and flowers artificially wrought and bak'd upon them, do make a glorious ſhow. There is alſo a little room adjoining unto it, the whole inſide whereof is covered with ſilver plate hatch'd with gold, and the floor is ſpread with very rich *Perſian* carpets of ſilk and gold.

There are, belonging to the ſaid rooms and lodgings of the King, very fair gardens, of all ſorts of flowers and fruits that are to be found in thoſe parts, with many very pleaſant walks, incloſed with high Cypreſs trees on each ſide, and marble fountains in ſuch abundance, that almoſt every walk hath two or three of them; ſuch great delight doth the *Grand Seignor* and all the *Turks* in general take in them. Nor indeed doth a *Turk*, at any time, ſhew himſelf to be ſo truly pleaſed and ſatiſ-

Gardens.

Cypreſs walks.

The pleaſure that a Turk takes in a garden.

ſatisfied in his ſenſes, as he doth in the ſummer time, when he is in a pleaſant garden: for he is no ſooner come into it (if it be his own, or where he thinks he may be bold) but he puts off his uppermoſt coat, and lays it aſide, and upon that his *Turbant*, then turns up his ſleeves, and unbuttoneth himſelf, turning his breaſt to the wind, if there be any; if not, he fans himſelf, or his ſervant doth it for him. Again, ſometimes ſtanding upon a high bank, to take the freſh air, holding his arms abroad (as a *Cormorant* ſitting upon a rock doth his wings in ſun-ſhine after a ſtorm) courting the weather, and ſweet air, calling it his ſoul, his life, and his delight; ever and anon ſhewing ſome notable ſigns of contentment: nor ſhall the garden (during his pleaſant diſtraction) be termed other than *Paradiſe*, with whoſe flowers he ſtuffs his boſom, and decketh his *Turbant*, ſhaking his head at their ſweet ſavours, and ſometimes ſinging a ſong to ſome pretty flower,

flower, by whoſe name peradventure his miſtreſs is called; and uttering words of as great joy, as if at that inſtant ſhe herſelf were there preſent. And one bit of meat in a garden ſhall do him more good (in his opinion) than the beſt fare that may be elſewhere.

Beſides the aforeſaid rooms (which are very many, and ſerve only for the King's own perſon) there is the womens lodging, which is in a manner like a nunnery, wherein the Queen, the other * *Sultana's*, and all the King's women and ſlaves do dwell. And it hath within it all the commodity that may be, of beds, chambers, dining-rooms, † *Bagno's*, and all other kinds of building neceſſary for the uſe and ſervice of the women, which dwell therein.

Womens lodging.

* *Sulta*, Lady, the feminine gender to *Sultan*.

† Baths or hot-houſes; it muſt be pronounced *Banios*.

There are likewiſe diverſe rooms and lodgings built a-part from all thoſe aforeſaid, which ſerve both for the principal Officers and thoſe of a mean degree, and alſo for the baſeſt ſort; and are ſo well furniſhed,

Rooms for Officers.

furniſhed, that not any want can be diſcerned of ought, that may be thought requiſite and convenient for them.

The Privy Treaſury and Wardrobe.

Amongſt which there are two large buildings, the one the *Hazineh*, or private treaſury; and the other the King's wardrobe. Theſe are two very handſome buildings, and ſecure by reaſon of the thickneſs of their walls, and ſtrength of their iron windows. They have each of them an

Door ſealed.

iron door, kept ſhut continually, and that of the *Hazineh* ſealed with the King's ſeal.

Rooms for many other uſes.

In the ſaid *Seraglio* there are rooms for prayer, *Bagno's*, ſchools, butteries, kitchins, diſtilling-rooms, places to ſwim in, places to run horſes in, places for wreſtling, butts to ſhoot at, and to conclude, all the commodity that may be had in a Prince's Palace, for things of that nature.

Firſt gate.

At the firſt entrance into the *Seraglio*, there is a very large

Porch and guard.

and ſtately gate, in the porch whereof, there is always a guard of about fifty men with their weapons

pons by them, as pieces, bows, and ſwords. Having paſſed this gate (through which the *Baſhaws* and other great men may paſs on horſe-back) there is a very ſpacious court almoſt a quarter of an *Italian* mile in length, and very nigh as much in breadth; and, on the left hand in the court near unto the gate, there is a place to ſhelter the people and horſes in rainy weather. On the right hand there is an Hoſpital, for ſuch as fall ſick in the *Seraglio*, in which there are all things neceſſary: it is kept by an Eunuch, who hath many ſervants under him to attend upon the diſeaſed. Again, on the left hand there is a very large place in which they keep their timber, and carts, and ſuch like things, to have them near at hand for the uſe and ſervice of the *Seraglio*; over which there is a great hall, where are hanged up many weapons of antiquity, as ſcimitars, javelins, bows, head-pieces, gauntlets, &c. which they keep to lend the ſoldiers and others, for to accompany

Great Court.

Hoſpital, with officers.

Storehouſe.

ASHMOLEAN OXFORD MUSEUM

† The *Grand Seignor's* Deputy.

pany the *Grand Seignor*, or the † Chief *Vizir*, when they make any ſolemn entry into the city of *Conſtantinople*.

Having paſſed through the aforeſaid court, there is a ſecond gate (at which the *Baſhaws* alight) ſomewhat leſs than the former, but more neat and coſtly; under which there is alſo a ſtately porch, where there is likewiſe a guard of *Capoochees* provided with weapons, as they at the firſt gate are. Thence there is another court leſſer than the former, but far more beautiful and pleaſant, by reaſon of the delicate fountains, and rows of *Cypreſs* trees, and the green graſs-plots in which the ‡ *Gazels* do feed, and bring forth young: but in this court (the *Grand Seignior* only excepted) every one muſt go on foot. On both ſides of the ſaid gate there is an open gallery underſet with pillars, without which the (*a*) *Chiauſhes*, the (*b*) *Janizaries*, and the (*c*) *Spahees* do uſe to ſtand

Second gate.

Porch and guard.

Second Court.

‡ Roe Deer.

(*a*) Meſſengers, Purſuivants, or Sumners.

(*b*) The *Turkiſh* word is *Yeng-itcheree*, of *Yenghee* and *Itcheree* that is, new in, for that they are the lateſt order of Soldiers.

(*c*) The word is *Eſpawhee*, which in the *Perſian* ſignifieth a horſe-man.

ſtand in their ſeveral ranks, very well apparrelled, at ſuch times as there is a great *(d) Divan* held for the coming of any Ambaſſador to kiſs the *Grand-Signor's* hand.

(d) Court of Juſtice.

In the ſaid court on the right hand are all the kitchins, being in number nine; all which have their ſeveral officers and larders belonging unto them.

Nine Kitchins with their Larders.

The firſt and greateſt is the King's.

The ſecond the Queen's.

The third the *Sultana's*.

The fourth the * *Capee Agha's*.

The fifth for the *Divan*.

The ſixth for the † *Agha's*, the King's gentlemen.

* Chief Chamberlain.

† *Agha* ſignifieth Maſter.

The ſeventh for the meaner ſort of ſervants.

The eighth for the women.

The ninth for the under officers of the *Divan*, and ſuch as attend there to do what belongeth unto them in their ſeveral places.

And on the left ſide of the court there is the King's ſtable, of about thirty, or thirty five very brave horſes, which his Majeſty keepeth for his exerciſe, when he pleaſeth to run, or ſport with

King's ſtable.

his gentlemen the *Agha*'s in the *Seraglio*. Over which ſtable there is a row of rooms, wherein is kept all the furniture of the horſes, the which (I having ſeen both there, and abroad, at ſuch times as they have been uſed) I can affirm to be of extraordinary value. For the bridles, pectorals, cruppers, ſaddle-cloths, the pommels of the ſaddles, and ſtirrups, are ſet ſo thick with jewels of diverſe ſorts, that the beholders are amazed, they do ſo far exceed all imagination.

Horſes furniture.

Near adjoining to the ſaid ſtable are certain buildings for the ſervice of the officers of the *Divan*, and having paſſed two thirds of the court on the ſame ſide, there is the room wherein the *Divan* is kept: unto which joineth upon one ſide the *Hazineh*, called the outward *Hazineh*, which (the *Divan* being ended) is ſealed with the chief *Vizir's Seal*. And even with the room where the *Divan* is kept (but ſomewhat behind it, towards the left hand) is the gate which leadeth into the womens

Divan room.

Outward *Hazineh*, or treaſury.

Gallery. Queen's gate, and guard of black Eunuchs.

womens lodgings, called the Queen's gate, which is kept and guarded by a company of black Eunuchs.

The aforeſaid ſecond court endeth at a third gate, termed the King's gate, which leadeth into the rooms and lodgings kept apart for himſelf, and ſuch gentlemen, as are to attend upon him continually: neither may any one enter therein, but by abſolute leave from the King (ſpeaking of men of great quality;) but ſuch as are belonging to the buttery, or kitchin, and phyſicians, caters, and ſewers, may go in and out with leave only from the * *Capee Agha*, who is the chief chamberlain of the *Seraglio*, and to him is committed the keeping of that gate; and he is always at hand (by reaſon his lodging is near) with a company of white Eunuchs about him like himſelf; ſo that what is reported, of things within this gate, is for the moſt part by relation; for either one may not ſee them, or if he do ſee them, it muſt be

Third (or King's) gate.

Who may enter.

* *Capee Agha* chief chamberlain.

White Eunuchs.

when the King is abſent; and he muſt be brought in by ſome man of quality and command, by one of the gates at the ſea-ſide; the which alſo cannot be obtained but with great difficulty, and ſome charge too for a gratification to the guide; they having not only great regard and reſpect to their King's perſon, but alſo to his rooms in his abſence.

Audience chamber.

Another fair Court.

Having paſſed the third gate (the which hath alſo a very fair porch) immediately is ſeen the aforeſaid room appointed for publick audience: and there within that gate alſo is another very fair court, paved with very fine marble, wrought with *Moſaical* work; wherein are many delicate fountains, and ſumptuous buildings on all ſides, in which commonly the King uſeth to eat and paſs the time in ſome recreation.

Summer rooms.

There is a row of ſummer rooms built upon the top of a little hill; which looks towards the ſea-ſide, ſo well contrived with halls and chambers, and

ſo

ſo pleaſantly ſeated, and richly furniſhed, that it may well be the habitation of ſo great a Prince. Amongſt which there is a hall opening towards the Eaſt, but underſet with very fair pillars; which hall looks into an artificial four ſquare lake (which they call *Hawoz*) proceeding from about thirty fountains which are built upon a kind of *Terras*, of very fine marble, which compaſſeth the ſaid lake, the water running from the fountains above down into the lake, and from the lake through diverſe gutters into gardens. Two men may walk a breaſt upon the *Terras*, where they hear the continual and ſweet harmony, which the fountains make with leaden pipes, inſomuch that it is a moſt delightful place. And in the lake there is a little boat, the which (as I was informed) the *Grand Seignor* doth oftentimes go into with his * *Mutes*, and *Buffoons*, to make them row up and down, and to ſport with them, making them leap into the water; and many

A Hall.

A Lake.

A little boat in the lake.

* Dumb Men and Jeſters.

times, as he walks along with them above upon the ſides of the lake, he throws them down into it, and plunges them over head and ears.

Grand Seignor's bed-chamber deſcribed.

Near unto the ſaid hall, is his Majeſty's bed-chamber, the walls whereof are covered with ſtones of the fineſt *China* metal, ſpotted with flowers of diverſe colours, which make an excellent ſhow.

* Hangings before the doors.

The * *Anteporta's* are of cloth of gold of *Burſia*, and their borders of crimſon velvet embroidered with gold and pearls: the poſts of the bedſtead are of ſilver, hollow, and, inſtead of knops on the tops of them, there are ſet

Lions of Chriſtal.

lions made of chriſtal: the canopy over it is of cloth of gold, and ſo are the bolſters, and the mattreſſes. The floor of this chamber (as of the other rooms) and the *Sofa's*, are ſpread with very coſtly *Perſian* carpets of ſilk and gold; and the pallets to ſit on, with the cuſhions to lean upon, are of very rich cloth of gold.

There

There is hanging, in the midſt of the aforeſaid hall, a very great lantern, the form whereof is round, and the bars of ſilver gilt, and ſet very thick with rubies, emeralds, and *Turquoiſes*: the panes are of fine chriſtal. There is likewiſe a baſon and ewer of maſſy gold, ſet with rubies and *Turquoiſes*, which beautify the room. A Lantern. Baſen and Ewer of gold.

Behind the hall, there is a place to ſhoot in, where there are laid up many bows and arrows; and there are to be ſeen ſuch ſtrange paſſages made with arrows by the King's predeceſſors, and by the King himſelf, through braſs and iron, that it ſeemeth almoſt impoſſible to be done by the arm of any man. Shooting place.

The room, which is called the *Publick Divan*, hath been built of late years. It is four ſquare, and about eight or nine paces every way from ſide to ſide. It hath behind it another room for the ſervice thereof, and one alſo at the coming in to the *Divan* on the right hand, divided Publick *Divan* deſcribed.

only by a wooden rail: with many other rooms ſomewhat diſtant from it, which ſerve for the expedition of ſundry buſineſſes. This *Divan* I call publick, becauſe any kind of perſon whatſoever (as well ſtranger as native) publickly and indifferently may have free acceſs unto it, to require juſtice, to procure grants, and to end their cauſes, and controverſies, of what nature, condition, or import ſoever they be, without let or contradiction.

Thus have I made a brief deſcription of ſome of the rooms and buildings of this *Seraglio*, according to the notice I took of them. But hitherto I have omitted to ſhew, how that a great part of the beſt of them have been built, from time to time, at the coſt and charges of the ſubjects. For there have been diverſe *Baſhaws*, who being in favour with the *Grand Seignor* obtained leave at ſeveral times to add unto the *Seraglio* a room or two, for a memorial of ſome notable good ſervice which they had done

Baſhaws build rooms in the King's *Seraglio.*

done their Prince. In the building of which, they have ſpared no coſt, although for the moſt part the rooms are very little: but this their often patching of new rooms with old hath cauſed a great confuſedneſs in the whole fabrick, they having not obſerved any uniformity at all in their manner of building.

CHAP.

CHAP. II.

Of the Divan, Days, Judges, Seſſion, Judicature, Diet, and giving an Account to the King of what hath paſſed.

Four *Divan* days.

THE *Divan* days are four every week, *viz. Saturday*, *Sunday*, *Monday*, and *Tueſday*; upon which days the * *Vizir Azem*, with all the reſt of the *Vizirs*, the two † *Cadileſchers* of *Grecia* and *Natolia* (which are the chief over all the *Cadees* of thoſe two provinces,) the three ‡ *Defterdars*, (whoſe charge is to gather in the King's revenues, and likewiſe to pay all his ſoldiers, and others which have any penſion due unto them;) the *Reiskitawb* (which is the chancellor) the ‖ *Niſhawngee* (that is, he that ſigneth commandments and letters

* Chief *Vizir*.

† The true word is *Kazeeasker*, which ſignifieth, the Judge of an army.

‡ *Defterdars*, the Treaſurers; ſo called of the word *Defter*, which ſignifieth a bill or ſcroul.

Reiskitawb.

‖ The word ſignifieth a Keeper of the Mark.

letters with the *Grand Seignor*'s mark) the ſecretaries of all the *Baſhaws*, and of other great men; a great number of clerks, which are always attending at the door of the *Divan*; the *Chiauſh Baſhaw* (who, all that while that he is in the *Seraglio*, carrieth a ſilver ſtaff in his hand) and many *Chiauſhes*, that, at the *Vizir*'s command, they may be ready to be diſpatched, with ſuch orders as ſhall be given them by him, to what place, or to whomſoever he pleaſeth, (for they are thoſe which are employed in ambaſſies, or in ordinary meſſages, to ſummon men to appear before the bench, to keep cloſe priſoners, and, in fine, to perform all buſineſs of that nature.) Upon thoſe days, I ſay, all the aforeſaid magiſtrates and officers, from the higheſt to the loweſt, are to be at the *Divan* by break of day.

Secretaries and clerks.

Chief over all the *Chiauſhes*.

Chiauſhes.

The *Vizirs* being come into the *Divan*, they ſit down within, at the further end thereof, with their faces towards the door, upon a low bench, which joineth

The manner of ſeſſion.

to

to the wall, every one in his place, as he is in degree, ſitting all at the right hand of the chief *Vizir*, for with the laity the left is counted the upper hand, but with the clergy the right; and, on his left hand, upon the ſame bench, do ſit the two *Cadeleſchers*; firſt, he of *Græcia*, as being of the more noble and famous province; and then he of *Natolia*. And, on the right ſide, at the coming in at the door, do ſit the three *Defterdars*, who have behind them (in the aforeſaid room, which is divided with a wooden rail) all the ſaid clerks, who ſit upon the ground on matts, with paper and pens in their hand, being ready to write whatſoever is commanded them. And, on the other ſide, over againſt the *Defterdars*, ſits the *Niſhawngee*, with a pen in his hand, having his aſſiſtants round about him. The *Reiskitawb*, for the moſt part, ſtands cloſe by the *Vizir*, for he takes his advice in many occurrents. In the midſt of the room do ſtand all ſuch as require *audience* of the Bench. Now

Left, the upper hand, with the laity, but with the clergy the right.

Cadeleſchers places.

Defterdars places.

Clerks places.

Niſhawngee's place.

Reiskitawb's place.

Now they being all come together, and every man ſet in his own place, the petitioners forthwith begin their ſuits, one after another, (who have no need of attorneys, though oftentimes they procure the help of a *Chiauſh*, for every one may ſpeak for himſelf) referring themſelves to the judgment and ſentence of the *Vizir Azem*, who (if he pleaſe) may end all: for the other *Baſhaws* do not ſpeak, but only hearken and attend, till ſuch time as he ſhall refer any thing to their arbitrement, as he commonly doth. For he having once underſtood the ſubſtance only of a buſineſs (to free himſelf from too much trouble) remits the deciding of it to others; as for example, if it be appertaining to the civil law, he then remits it to the *Cadileſchers*; if it be of accounts, to the *Defterdars*; if of falſhood (as counterfeiting the mark, or ſuch like) to the *Niſhawngee*; if concerning merchants, or merchandize, (wherein there may be any great difficulty) to ſome one of the

No need of attorneys.

The power of the *Vizir Azem*.

Manner of deciding.

the other *Baſhaws* which ſit by him: ſo that after this manner he doth exceedingly eaſe himſelf of ſo great a toil and burden, which otherwiſe he alone ſhould be enforced to undergo; reſerving only to himſelf what he thinketh to be of greateſt import and conſequence; and the like courſe doth the * *Caimekam* take in his abſence.

* He which governs in the chief *Vizir*'s abſence.

Thus do they ſpend the time until it be almoſt noon; at which hour (one of the *Sewers* being appointed to be there preſent) the chief *Vizir* commands that dinner be brought in; and immediately all the common people depart. So the room being free, the tables are made ready after this manner; there is ſet upon a ſtool, before the *Vizir Azem*, a thin round copper plate tinn'd over, about the bigneſs of the bottom of a beer barrel, at which himſelf, with one, or two at the moſt, of the other *Baſhaws*, do eat. The like is prepared for the reſt of the *Vizers*, which do eat together; and another for the *Cadileſ-*

Caim ſignifieth, firm, or reſident, and *Me-Kawn*, a place.

Dinner rites.

Copper plate.

dileſchers; one for the *Defterdars*; and one likewiſe for the *Niſhawngee*. Having every one a * napkin ſpread upon his knees, to keep his garments clean, and, a great quantity of bread being laid ready round about the ſaid copper plates, immediately the meat is brought in, and ſet before them upon the plates, in great diſhes made after a ſtrange faſhion; and ſtill as they have eaten of one diſh, the *Sewer* takes off that, and ſets on another.

* Which they call *peſtimawl*.

Diet.

Their diet is ordinarily, mutton, hens, pigeons, geeſe, lamb, chickens, broth of rice and pulſe, dreſs'd after diverſe faſhions, and ſome tarts, or ſuch like, at the laſt; for in a very ſhort ſpace they make an end of their dinner. That which remaineth of the ſaid tables, the officers of the *Divan* do eat; but they have an addition allowed, and brought them from their kitchin. The *Baſhaws*, and other great men, have drink brought unto them (which is *Sherbet*) in great *Porçelain* diſhes; but the others do either not drink at all, or, if they do drink, it is

Officers diet.

Drink.

fair

fair water brought them from the next fountains. At the ſame time, when the *Vizirs* of the bench, and others of the *Divan*, are at dinner, the under officers, waiters, and keepers, do dine alſo, (for they muſt loſe no time) the which is not leſs ordinarily than four or five hundred perſons (including alſo ſuch poor ſharking fellows as ſlip into the company for a dinner) but their food is nothing but bread and pottage, which they call *Churva*, which ſerves to fill their bellies, though it be but of ſmall nouriſhment.

Under-officers under-diet.

Dinner being ended, the chief *Vizir* ſpendeth ſome ſmall time about general affairs, and taking counſel together (if he pleaſeth and thinks it fit) with the other *Baſhaws*; at laſt he determineth and reſolveth of all within himſelf, and prepareth to go in unto the King (it being the ordinary cuſtom ſo to do, in two of the four *Divan* days, *viz.* upon *Sunday*, and upon *Tueſday*) to render an account briefly unto his Majeſty of all ſuch buſineſſes as he hath

Giving account to the King.

hath diſpatched. And, to this end, the *Grand Seignor* (after he hath dined alſo) repaireth unto his chamber of audience, and being ſet down upon a *Sofa*, ſendeth the *Capee Agha* (who hath in his hand a ſilver ſtaff) to call firſt the *Cadileſchers*; who immediately riſe up out of their places, and having bowed themſelves to the *Vizir Azem*, they depart, being accompanied with the ſaid *Capee Agha* and *Chiauſh Baſhaw*, who go before them with their ſilver ſtaves in their hands; and ſo they go in unto the King, to give account, and make him acquainted with what hath paſſed concerning their charge; which being done, they are diſmiſſed for that day, and go directly home to their own houſes. Next after them are called the *Defterdars*; who, in the ſame manner, are brought unto the King, but the chief *Defterdar* is only permitted to ſpeak; and having diſpatched, they take leave, and give place to the *Vizirs*, who are called laſt of all, and go together in

By the *Cadeleſchers.*

By the *Defterdars.*

And by the *Vizirs.*

rank, one after another, the chief *Vizir* being foremoſt, uſher'd along by the two aforeſaid ſilver ſtaves; and being come before the preſence of the *Grand Seignor*, they ſtand all on one ſide of the room, with their hands before them acroſs, holding down their heads, in token of reverence and humility. And here none but the chief *Vizir* ſpeaketh, and gives an account of what he thinketh fit, delivering his *Memorials*, or *Arzes*, one by one; the which the King having read, the *Vizir* takes them, and having put them into a little crimſon ſatten bag, he moſt humbly layeth them down again before his Majeſty, who afterwards cauſeth his * *Hattee-humawyoon* to be drawn for the performance of what the *Arzes* did require. If the *Grand Seignor* demand no further of him (the other *Baſhaws* not having ſpoken one word all this while) they all depart, and take horſe at the ſecond gate; and, being accompanied by divers men of quality (who, to inſinuate into their favours, do wait upon them)

Reverence to the King.

* A commandment from the King: the word ſignifieth a kingly or royal paper.

Their departure.

them) beſides a great many of their own people, every one goes to his own houſe. The Chief *Vizir*, for his greater grace and honour, hath commonly about an hundred *Chiauſhes* on horſeback, who bring him to his home, and ſo the *Divan* is ended for that day, it being about three hours after noon; but upon ſuch days as they have no audience of the King, they diſpatch ſooner. And what hath been ſaid of the *Vizir Azam*, the ſame alſo is to be underſtood of the *Caimekam* in his abſence.

It is to be noted that ſometimes alſo the † *Agha* of the *Janizaries*, and the ‖ captain *Baſhaw*, come to the *Divan*, when they are at home in *Conſtantinople*, and have buſineſs to do there. But the captain *Baſhaw* only doth go in unto the King (which alſo may not be but in company of the other *Baſhaws*) and his buſineſs is to acquaint his Majeſty with the eſtate and affairs of the *Arſenal*, and *Armada*. His place in the *Divan* is upon the ſame

† Chief captain or maſter of the *Janizaries*.

‖ Admiral, Captain *Baſhaw*.

His place. bench, but yet he ſitteth laſt, and loweſt, of all the *Baſhaws*; unleſs he be a *Vizir* (as it is often ſeen) and then he takes his place either ſecond, or third, or fourth, as he is in degree by election. But the *Agha* of the *Janizaries* doth not ſit in *Divan*, but ſitteth under the open gallery on the right hand within the ſecond gate. And if at any time it ſhall ſo fall out, upon ſome extraordinary buſineſs, (as it hath ſometimes been ſeen) that he be to go in unto the King; then he is called firſt of all, and goeth before either *Defterdars*, or *Cadeleſchers:* and being come out again from his Majeſty, he ſitteth down again in his place until the *Divan* be ended. He is the laſt that departeth of all the great men, and is attended on by a great many * *Churbegees* and *Janizaries* unto his *Seraglio*, where he and many of them do live together.

Aga of the *Janizaries place.*

* Captains of the *Janizaries.*

The *Grand Seignor's* predeceſſors were always wont to come, and this man ſometimes cometh privately by an upper way to a certain

certain little window, which looketh into the *Divan*, right over the head of the Chief *Vizir*; and there ſitteth (with a lattiſe before him, that he may not be ſeen) to hear and ſee, what is done in the *Divan:* and eſpecially at ſuch times when he is to give audience to any Ambaſſador from a great Prince, to ſee him eat, and hear him diſcourſe with the *Baſhaws:* and by this his coming to that window, the Chief *Vizir* (who always ſtandeth in jeopardy of loſing his head, upon the *Grand Seignor's* diſpleaſure) is enforced to carry himſelf very uprightly, and circumſpectly, in the managing of affairs, whilſt he ſits in *Divan*; though at other times his hands are open to bribery, and carry buſineſſes as he pleaſeth.

The King's private awful window.

CHAP. III.

Of the Audience and Entertainment given to Ambaſſadors.

Ambaſſadors Audience.

WHEN it falleth out that an Ambaſſador from any great Prince, is to kiſs the *Grand Seignor's* hand; it muſt be either upon a *Sunday*, or upon a *Tueſday*, (for thoſe are the days appointed for his Highneſs to give audience) to the end he may not be troubled at other times. And then the *Vizir* commandeth that there be a great *Divan*, which is done by calling together all the *Grandees* of the *Porch*, all the *Chiauſhes*, all the * *Mutaferrakas*, and a great number of *Spahees* and *Janizaries*; who are every one of them commanded by their captains, to apparel themſelves in the

* Theſe are horſemen, but of a higher rank then *Spahees*: the word ſignifieth ſet apart, or different.

the beſt manner that they are able, and to go every one to his place in the ſecond court, and there to ſtand in orderly ranks: making indeed a very goodly ſhow, for they are very well clothed, and are moſt of them of comely perſonage.

Thus the *Divan* being all in order, and few, or no common buſineſſes handled for that day, the *Vizir* ſendeth the *Chiauſh Baſhaw*, with many of his *Chiauſhes* on horſe-back, to accompany the Ambaſſador: who, being come to the *Divan*, is ſet face to face, cloſe before the chief *Vizir*, upon a ſtool covered with cloth of gold. Having for a while complimented and uſed ſome friendly diſcourſe together; the *Baſhaw* commandeth that dinner be brought: the which is done after the ſame manner as upon other *Divan* days; only the round plate, on which the meat is ſet, is of ſilver, and the victuals are more delicate and in greater abundance. And ſo the Ambaſſador and the *Vizir Azem*, with one

Ambaſſador entertained at the *Divan*.

Silver plate.

one or two of the other *Baſhaws*, do eat together. And for every ſuch banquet at ſuch times, the *Grand Seignor* alloweth, beſides the ordinary *Divan* diet, a thouſand crowns to be ſpent. Howbeit I dare ſay the ſteward makes the one half to ſerve the turn, and reſerves the reſt to himſelf.

A thouſand crowns allowed for the entertainment.

They having dined, the *Vizir* entertaineth the Ambaſſador with ſome diſcourſe, until ſuch time as the Ambaſſador's followers have dined alſo, who I can ſay are ſerved after a very mean faſhion; and then the Ambaſſador, together with his own attendants, retire themſelves into a certain place near the King's gate: where he muſt ſtay, till ſuch time as all the orders of the *Divan* have had audience of the King, who being diſmiſſed do all depart, the *Baſhaws* excepted, who for the *Grand Seignor*'s honour are to ſtay, and attend in the room upon his Majeſty. But by the way I muſt not omit to tell you, how that the preſent, which the Ambaſſador brings along with him,

is

is carried, whilſt he ſitteth in the ſaid retiring place, once about the ſecond court in open ſight of the people, be it what it will, and ſo in unto the King.

Then the Ambaſſador is called by the Maſter of the ceremonies, by whom he is brought to the gate where the *Capee Agha* ſtandeth with a company of Eunuchs. Then the *Capee Agha* leadeth him to the door of the room, where there do ſtand two *Capoochee Baſhaws*, who take the Ambaſſador, the one by one arm, and the other by the other arm, and ſo lead him to kiſs his Highneſs's hand, which in truth is but his hanging ſleeve; which he having done, they lead him back after the ſame manner to the lower end of the room, where he ſtandeth till ſuch time as the ſaid two *Capoochee Baſhaws* have led ſuch of the Ambaſſador's gentlemen, as are appointed to kiſs the King's hand alſo. This done, the * *Druggaman* declareth the Ambaſſador's commiſſion, to which the *Grand Seignor* maketh no

Maſter of the ceremonies.

His admiſſion to the preſence. His kiſſing the King's hand.

* The true word is *Terjuman*, which ſignifieth an interpreter.

no anſwer at all, diſdaining to ſpeak to a chriſtian; but only ſpeaketh a word or two to the Chief *Vizir*, to licenſe him, referring all proceedings to his diſcretion. And ſo the Ambaſſador departeth, doing obeiſance to the King, with bowing down his head, but pulleth not off his hat, or cap at all.

His departure.

There is one particular, belonging to this ceremony, worthy the obſervation, which is this; that there is not at any time, any perſon whatſoever, as well Ambaſſador as other, which is to kiſs the *Grand Seignor*'s hand, but he is veſted with a veſt given him by the *Grand Seignor*. And to this end, before the Ambaſſador goeth in unto the king, the *Vizir Azem* ſendeth him ſo many veſts, as are appointed by *Canon*, for himſelf and his gentlemen; who put them on in the place where the Ambaſſador ſtayeth, till the King ſend for him to give him audience. Theſe veſts are of divers ſorts; of which there is one or two for the Ambaſſador's own

Veſting.

own perſon of cloth of gold of *Burſia*; the other being of a low price, worth little or nothing.

But on the contrary, in lieu of thoſe veſts, there is not any Ambaſſador, which is to go to the King for his firſt audience; or *Baſhaw*, who, at his return from ſome employment abroad, is to kiſs his hand, but they preſent him with the full value of what the *Canon* requireth: inſomuch that the *Grand Seignor* receiveth more than he giveth, twenty fold. Moreover, the *Baſhaws*, over and above the ordinary duty, do give him exceeding rich preſents, and oftentimes great ſums of money too; that by all means they may continue in his grace and favour. Recompence.

Other Ambaſſadors, which come from petty princes, or ſtates, howbeit they are veſted alſo with veſts given them by the *Grand Seignor*, yet they come not to the *Divan* in that pomp, neither are they feaſted as the others are; but go privately, carrying their preſent with them: howſoever, they are alſo led in unto the King after

after the aforeſaid manner. It is to be noted, that all Ambaſſadors from abſolute Princes, as well ordinary as extraordinary, excepting thoſe from the *Signoria* of *Venice*, to whom, from their firſt introduction, it was denied: all, I ſay, lie at the charges of the *Grand Seignor*. For from his own ſtore, they have allowed them wheat, barley, pulſe, wood, coals, hay, the cuſtom of their wine, and many other neceſſaries for their houſhold expenſe; and from the *Defterdar* ſo many ‡ aſpars *per diem*, as the *Vizir* ſhall think fit. Which proviſion, tho' now of late it be very hard to be gotten in; yet by great importunity and gifts (without which there is no good to be done) in the end they receive a great part of it. But the officers will ſhare with them, do what they can; ſuch is their baſeneſs, and ſlender account, of either honour, or honeſty.

All Ambaſſadors but the *Venetian* at the King's charge.

‡ Ten aſpars make ſixpence.

CHAP.

CHAP IV.

Of the Perſons which live in the Seraglio ; *and chiefly of the Women, and Virgins.*

HAving thus far made a deſcription of the *Seraglio* itſelf, and the buildings which are therein ; with ſome particulars belonging unto it, according to that which I have both ſeen, and heard from others which are daily converſant there : it followeth that I now ſpeak ſomewhat touching thoſe which dwell in it, and of their ſeveral qualities and employments.

Firſt then I ſay, that all they which are in the *Seraglio*, both men and women, are the *Grand Seignor's* ſlaves (for ſo they ſtile themſelves ;) and ſo are all they which

One Lord, the reſt ſlaves.

which are ſubject to his empire. For beſides that he is their ſovereign, they do all acknowledge that whatſoever they do poſſeſs, or enjoy, proceedeth meerly from his good will and favour: and not only their eſtates, but their lives alſo are at his diſpoſe, not having reſpect either to the cauſe, or manner. So that in my opinion, the attributes they give unto him, are indifferently proper, and fitly ſuiting with the condition of ſuch a Prince. For he is ſtiled ſometimes † *Pawdiſhawh*, and ſometimes ‖ *Hoonkeawr*. In regard of ſovereignty and juſtice, they may truly call him *Pawdiſhawh*; but in regard of his tyranny, *Hoonkeawr*: both which words they uſe in the ſame ſenſe as we do the word King.

† This word ſignifieth an an expeller of Princes: but ſome will have it to come of *Pawd* and *Shooh*, which is an expeller of injury, or injuſtice; but amongſt the *Turks* it is uſed for an Emperor; and they give the ſame title to the Emperor of *Germany*, calling him *Nemps Pawdiſhawh*.

‖ This is a *Perſian* word, and ſignifieth, a man of blood, or one which cauſeth blood; but uſed for King.

This *Seraglio* may rightly be termed the ſeminary or nurſery of the beſt ſubjects. For in it, all they have their education, which after-

afterwards become the principal officers, and ſubordinate rulers of the ſtate, and affairs of the whole empire; as hereafter I ſhall ſhew at large.

They which are within the third gate, called the King's gate, are about two thouſand perſons, men and women; whereof the women (old and young one with another; what with the King's concubines, old women, and women ſervants) may be about eleven or twelve hundred. Now, thoſe which are kept up for their beauties, are all young virgins taken and ſtolen from foreign nations; who after they have been inſtructed in good behaviour, and can play upon inſtruments, ſing, dance, and ſew curiouſly; they are given to the *Grand Seignor*, as preſents of great value: and the number of theſe increaſeth daily, as they are ſent and preſented by the *Tartars*, by the *Baſhaws*, and other great men, to the King and Queen. They do likewiſe ſometimes decreaſe, according as the *Grand Seignor* ſhall think fit. For upon

Two thouſand within the King's gate.

11 or 1200 women.

Virgins.

upon diverſe occaſions and accidents, he cauſeth many of them to be turned out of this *Seraglio*, and to be ſent into the old *Seraglio*: which is alſo a very goodly and ſpacious place, of which hereafter I ſhall take occaſion to make mention.

Virgins made *Turks*, and how.

Theſe virgins, immediately after their coming into the *Seraglio*, are made *Turks*: which is done by uſing this ceremony only; to hold up their forefinger, and ſay theſe words; *law illawheh illaw Allawh, Muhammed reſoul Allawh.* That is, there is no God but God alone, and *Mahomet* is the meſſenger of God. And according as they are in age and diſpoſition (being proved and examined by an old woman called *Kahiyah Cadun*, that is, as we ſay, the mother of the maids) ſo they are placed in a room with the others of the ſame age, ſpirit, and inclination, to dwell and live together.

Kahiyah Cadun, the mother of the maids.

Their manner of life.

Now in the womens lodgings, they live juſt as nuns do in great nunneries. For theſe virgins have very

very large rooms to live in; and their bed-chambers will hold almoſt a hundred of them a-piece. They ſleep upon *Sofaes*, which are built longways on both ſides of the room, and a large ſpace left in the midſt to go to and fro about their buſineſs. Chambers.

Their beds are very coarſe and hard (for the *Turks* neither uſe feather-beds nor corded bed-ſteads) made of flocks of wool; and by every ten virgins there lies an old woman; and all the night long there are many lamps burning, ſo that one may ſee plainly throughout the whole room; which doth both keep the young wenches from wantonneſs, and ſerve upon any occaſion which may happen in the night. Near unto the ſaid bed-chambers they have their *Bagnios*, for their uſe at all times, with many fountains, out of which they are ſerved with water; and, above their chambers, there are divers rooms, where they ſit and ſew, and there they keep their boxes and cheſts in which they lay up their apparel. Beds. Bagnios. Sewing, and cheſts.

They feed by whole *Camaradaes*, and are ſerved and waited upon by

other women: nor do they want any thing whatſoever, that is neceſſary for them.

Schooling, and miſtreſſes.

There are other places likewiſe for them, where they go to ſchool, to learn to ſpeak and read, if they will, the *Turkiſh* tongue, to ſew alſo, and to play on divers inſtruments: and ſo they ſpend the day with their miſtreſſes, who are all ancient women; ſome hours, notwithſtanding, being allowed them for their recreation, to walk in their gardens, and uſe ſuch ſports as they familiarly exerciſe themſelves withall.

Recreation.

The King doth not at all frequent, or ſee, theſe virgins, unleſs it be at that inſtant when they are firſt preſented unto him; or elſe in caſe that he deſire one of them for his bed-fellow, or to make him ſome paſtime with muſick, and other ſports. Wherefore when he is prepared for a freſh mate, he gives notice to the ſaid *Kahiya Cadun* of his purpoſe; who immediately beſtirs herſelf like a crafty bawd, and chooſeth out ſuch as ſhe judgeth to be the moſt amiable, and faireſt of all;

all; and having placed them in good order in a room, in two ranks, like ſo many pictures, half on the one ſide, and half on the other; ſhe forthwith brings in the King, who walking four or five times in the midſt of them, and having view'd them well, taketh good notice within himſelf of her that he beſt liketh, but ſays nothing; only as he goeth out again, he throweth a handkerchief into that virgin's hand; by which token ſhe knoweth that ſhe is to lie with him that night. So ſhe being, queſtionleſs, exceeding joyful to become the object of ſo great a fortune, in being choſen out from among ſo many to enjoy the ſociety of an Emperor, hath all the art, that poſſible may be, ſhewn upon her by the *Cadun*, in attiring, painting, and perfuming her; and at night ſhe is brought to ſleep with the *Grand Seignor* in the womens lodgings, where there chambers ſet a-part for that buſineſs only. And, being in bed together, they have two great wax lights burning by them all night; one at the bed's feet, and the other by the door: beſides there are

The King's coming to them.

His choice.

Preparatives.

Bed-chamber rites.

appointed, by the *Cadun*, divers old *Blackmoor* women, to watch by turns that night in the chamber, by two at a time; one of them ſits by the light at the bed's feet, and the other by the door; and when they will, they change, and other two ſupply their rooms, without making the leaſt noiſe imaginable, ſo that the King is not any whit diſturbed, Now in the morning when his Highneſs riſeth (for he riſeth firſt) he changeth all his apparel from top to toe, leaving thoſe which he wore to her that he lay withall, and all the money that was in his pockets, were it never ſo much; and ſo departeth to his own lodgings; from whence alſo he ſendeth her immediately a preſent of jewels, money, and veſts of great value, agreeable to the ſatisfaction and content which he received from her that night. In the ſame manner he deals with all ſuch as he maketh uſe of in that kind; but with ſome he continueth longer than with other ſome, and enlargeth his bounty far more towards ſome than others, according as his humour, and affection to them increaſeth,

Reward.

increaſeth, by their fulfilling his luſtful deſires.

And if it ſo fall out, that any one of them doth conceive by him, and bring forth his firſt begotten child; then ſhe is called by the name of *Sultana* Queen: and if it be a ſon, ſhe is confirmed and eſtabliſhed by great feaſts and ſolemnities; and forthwith hath a dwelling aſſigned unto her a-part, of many ſtately rooms well furniſhed; and many ſervants to attend upon her. *Sultana* Queen.

The King likewiſe alloweth her a large revenue, that ſhe may give away, and ſpend at her pleaſure, in whatſoever ſhe may have occaſion; and all they of the *Seraglio* muſt, and do acknowledge her for Queen, ſhewing all the duty and reſpect that may be, both to herſelf, and to them that belong unto her. Her allowance.

The other women (howſoever they bring forth iſſue) are not called Queens; yet they are called *Sultanas*, becauſe they have had carnal commerce with the King: and ſhe only is called Queen, which is the mother of the firſt begotten ſon, heir to the Empire; the which *Sultanas*, being frequented by the King Other *Sultanas*.

at his pleaſure, have alſo this prerogative; to be immediately removed from the common ſort, and to live in rooms a-part, exceeding well ſerved and attended; and have no want either of money, or apparel, in conformity to their degree.

All theſe *Sultanas* do reſort together very familiarly, when they pleaſe; but not without great diſſimulation, and inward malice; fearing leſt the one ſhould be better beloved of the *Grand Seignor* than the other; yet notwithſtanding this their jealouſy, they, in outward ſhew, uſe all kind of courteſy one towards another.

Now if it happen that the firſt begotten ſon of the Queen, heir to the Empire, ſhould die, and another of the *Sultanas* ſhould have a ſecond ſon; then, her ſon being to ſucceed the deceaſed heir, ſhe is immediately made Queen: and the former ſhall remain a *Sultana* only, and be deprived of the aforeſaid revenue and royalty. Thus the title of Queen runneth from one *Sultana* to another, by virtue of the ſon's ſucceſſion.

The Queen changed.

In

In times paſt the Queen was wont to be wedded to the King; but now ſhe paſſeth without the *Kebin*, that is, without an aſſignment of any jointure, or celebrating the nuptial rites; which is nothing elſe, but in the preſence of the *Muftee* to give each of them their aſſent to matrimony, of which there is *Hoget* made (that is, an authentical writing or teſtification) not only of the conſent of the two parties to be contracted, but alſo of the jointure which the King is to make over unto her. Nuptial rites.

The reaſon why the Queens are not now, nor have been of late years, eſpouſed, is, not to diſmember the King's patrimony of five hundred thouſand chicquins a year. For *Sultan Selim* having allowed ſo much to the Empreſs his wife (to the end ſhe might ſpend freely, and build churches and hoſpitals, ſo that by all means ſhe might be honoured and eſteemed) made a decree, that all his ſucceſſors ſhould do the like, if ſo be they purpoſed to be married to their Queens. But now, the ſaid revenue being otherwiſe employed, The Queen's Jointure.

the *Baſhaws* do endeavour, as much as in them lies, to keep the *Grand Seignor* from marrying; and ſo much the rather, becauſe they would have none to rule but the King alone. Howſoever, married or not married, the mother of the heir is by every one called and acknowledged for Queen, and preſented with many rich preſents from all great perſonages; and hath continually, at her gate, a guard of thirty or forty black eunuchs, together with the * *Kuzlar Agha* their maſter, whom ſhe commandeth, and employeth in all her occaſions; and ſo do all the other *Sultanas*, which never ſtir out of the *Seraglio*, but in company of the King himſelf, who oftentimes carrieth either all, or moſt of them abroad by water, to his other *Seraglios* of pleaſure: and in thoſe ways through which they paſs, to go to and fro from their † *Kaiks*, there is canvas pitched up on both ſides; and none may come near them but black *Eunuchs*, till they be ſettled, and covered cloſe in the room at the ſtern of the ‡ *Kaik*; and then go in the bargemen; ſo that, in fine, they are never ſeen by any

Guard of black Eunuchs.

* *Kuzlar Agha* ſignifieth, maſter of the virgins.

† Barges. Canvas-way.

‡ Barge.

any men, but by the *Grand Seignor* only, and the eunuchs.

The King's daughters, ſiſters, and aunts, have their lodgings alſo in the ſame *Seraglio*; being royally ſerved, and very ſumptuouſly appareled, and live together by themſelves, in continual pleaſures; until ſuch time as, at their requeſt, the King ſhall be pleaſed to give them in marriage; and then they come forth of that *Seraglio*, and carry, each of them, along with them a cheſt which the *Grand Seignor* gives them, full of rich apparel, jewels, and money, to the value of, at the leaſt, thirty thouſand pounds *Sterling* a cheſt; and that is, as we call it, their portion. They carry likewiſe along with them all that which they have hid from time to time, unknown to any but to themſelves, amounting ſometimes to a great matter, and ſtands them in good ſtead all their whole life-time. And if ſo be that they be in the *Grand Seignor*'s favour, and that he be diſpoſed to deal royally with them, then they are ſuffered to carry with them, out of the *Seraglio*, ſuch women ſlaves

The King's daughters, and ſiſters, &c.

Portion-cheſt.

Slaves and Eunuchs.

ſlaves as they pleaſe (provided they do not exceed the number of twenty a piece) and ſuch eunuchs as they like beſt, for their ſervice.

Theſe alſo, being called *Sultanas*, reſerve ſtill, as long as they live, their allowance of money which they had whilſt they lived in the King's *Seraglio*, ſome a thouſand, and ſome a thouſand five hundred aſpars a day; the ſlaves alſo, and the eunuchs, do likewiſe enjoy their former penſions.

Their houſes are furniſhed both with houſhold ſtuff, and other neceſſary proviſion, from the King's * *Hazineh* and † *Beglcek*, that they may live *alla grande* like *Sultanas*; ſo that indeed they live far better, in every reſpect, without the *Seraglio*, than they did within it.

* Treaſury.
† Store.

And if ſo be that a *Baſhaw*, having married one of them, be not provided of a houſe fit for her, then the King giveth her one of his (for he hath many which fall to him by the death of great perſons) that her houſe may be ſuitable with her greatneſs and quality.

Now,

Now, for the husband's part, he is, on the contrary, to make her a bill of dowry, ordinarily of at leaſt a hundred thouſand chicquins in money, beſides veſts, jewels, brooches, and other ornaments, amounting to a great ſum: for although the faſhion of the *Sultanas* habit be common, and nothing different from that of the other women, yet the ſubſtance is far more rich and coſtly; the which redounds to the great charge and loſs of their husbands. Bill of dowry.

They, being thus married, do not at all converſe with men, more than they did when they lived in the King's *Seraglio* (except with their own husbands) but with women only; and that is commonly when they go upon viſits to ſee their old acquaintance in the *Seraglio*. But becauſe they themſelves came forth from thence, as I ſaid before, they may not at their pleaſure come in again, without leave from the *Grand Seignor*. Privateneſs. Viſitings.

Theſe *Sultanas*, the *Baſhaws* wives, are, for the moſt part, their huſbands maſters, inſulting over them, and commanding them as they pleaſe. They are their husbands maſters.

They

They always wear at their girdle a * *Hanjar*, ſet with rich ſtones, in token of privilege and domination, and eſteem of their huſbands, as of ſlaves; doing good or evil for them, as they receive content and ſatisfaction from them, or as they find them to be in favour and powerful with the King. And ſometimes they put their husbands away, and take others; but not without the *Grand Seignor*'s leave: which divorce proves commonly to be the death and ruin of the poor rejected husbands, the King being apt to give way to the will and perſuaſion of the *Sultanas:* ſo it behoves them, in any caſe, to be very obſequious to their wives.

* A dagger.

Divorce.

What becomes of the other women.

Now, the other women, which are not ſo fortunate as to be beloved of the King, muſt ſtill live together, and diet with the reſt of the young virgins, waſting their youthful days amongſt themſelves, in evil thoughts; for they are too ſtrictly look'd unto, to offend in act: and when they are grown old, they ſerve for miſtreſſes and overſeers of the young ones, which are daily brought into the *Seraglio*; but hold it their beſt for-

tune

tune (their former hopes of being bed-fellows to an Emperor being now wholly fruſtrated) through ſome accident to be ſent forth from thence into the old *Seraglio*; for from the old *Seraglio* they may be married, if the miſtreſs of that place give her conſent thereto, and may take with them ſuch money as they, through their frugality, have ſaved and ſpared of their former allowance in the King's *Seraglio*, and ſuch things as have been given them from time to time, which may amount to a reaſonable value. For, whilſt they are in the *Seraglio*, they get many things from the *Sultanas*, who, having formerly been companions with them, cannot but in ſome meaſure let them be partakers of their good fortune; beſides their current pay out of the King's *Hazineh* of * fifteen or twenty aſpars *per diem*, for the middle ſort, and four or five *per diem* for the baſer ſort; the which is paid at every three months end, without any deferring or contradiction. In that manner alſo are the *Sultanas* paid, *viz.* quarterly, having for their ſhares from † a thouſand to a thouſand five hundred aſpars

* That is, 9 *d.* or 12 *d.* a day.

Manner of their pay.

† That is, between 3 and 4 *l. Sterling* a day.

Clothes and jewels.

aſpars a piece *per diem*, beſides as much clothing as they will, and jewels in great abundance, given to them with the King's own hands.

The ſoldiers likewiſe, and all ſuch, of what quality ſoever they be, as are to receive pay from the *Grand Seignor*, are paid quarterly; and they call the firſt quarter's pay *Maſar*, the ſecond *Rejedg*, the third *Reſhen*, and the fourth and laſt *Lezez*.

The women ſervants allowance.

The women ſervants have, beſides their pay, two gowns of cloth a piece yearly, and a piece of fine linnen for ſmocks, of twenty * *Pikes* long, and a piece more fine for handkerchiefs, of ten *Pikes*; and at the † *Byram* one ſilk gown a piece, and ſomewhat elſe, according to the liberality of the *Grand Seignor*, who, at that time above the reſt, hath commonly a bountiful hand towards the women; giving to the *Sultanas* gowns with very rich furs, ear-rings, brooches, bodkins, bracelets for their arms and legs, and ſuch like, ſet with ſtones of great worth; of all which the King hath continually great ſtore, by reaſon of the unſpeakable

* A *Pike* is three quarters of a yard.

† Their great feaſt.

Byram-gifts.

ſpeakable number of preſents which are given unto him.

The *Sultanas* are likewiſe preſented at ſuch times by the *Baſhaws*, and by the *Baſhaws* wives (that by their means they may continue in grace and favour with the *Grand Seignor)* with moſt ſtately and rich gifts; and with money alſo, which indeed is more acceptable to them, than any other kind of preſent whatſoever. For they, being very covetous, do hoard up, and ſpend but ſparingly, abandoning all manner of prodigality (in what may concern their own private purſes) but warily and wittily provide againſt diſaſterous times, which may come upon them unawares; and eſpecially againſt the King's death; for then (excepting the *Sultana* Queen, who remaineth ſtill in the *Seraglio*, as being mother to the ſucceeding King) all the other poor deſolate ladies loſe the title of *Sultanas*, and are immediately ſent to the old *Seraglio*; leaving behind them their ſons and daughters, if they have any living, in the King's *Seraglio*, there to be kept, and brought up under the government

Sultanas preſents.

Frugality.

vernment and care of other women, appointed for that ſervice. And in this caſe, finding themſelves to be wealthy, they may marry with men of reaſonable good quality, according to the meaſure of their portion or eſtate, which they poſſeſs; and the good-will, and good report of the miſtreſs of the old *Seraglio* on their behalf, is none of the leaſt furtherances and helps in that buſineſs. But the *Grand Seignor*'s conſent muſt be had thereto, notwithſtanding; who will, for the moſt part, not only be made fully acquainted with the condition of their huſbands, but alſo will know what jointure they will be content to make them, if in caſe they ſhould put them away without their own conſents, or otherwiſe leave them widows. Thus, by reaſon of their being turned out of the King's *Seraglio*, it is often ſeen, that though the daughter of the King be married to a *Baſhaw*; yet the mother of that daughter, after the King's deceaſe, muſt be content with a ſecond huſband of ſmall account, far unequal, and much inferior,

The daughter preferred before the mother.

ferior, both in title, wealth, and reputation, to her ſon in law.

The *Sultanas* have leave of the *Grand Seignor*, that certain *Jew*-women may at any time come into the *Seraglio* unto them; who being extraordinary ſubtil, and coming in under colour of teaching them ſome fine and curious needle works, or to ſhew them the art of making waters, oyls, and painting for their faces (having once made way with the better ſort of the eunuchs which keep the gate, by often ſeeing them for their egreſs and regreſs) do make themſelves by their crafty inſinuations ſo familiar, and ſo welcome to the king's women, that, in a manner, they prevail with them in whatſoever they ſhall attempt for their own ends; for theſe are they whom the *Sultanas* do imploy in their private occaſions; carrying out whatſoever they would have ſold, and bringing in unto them any thing that they have a deſire to buy. And hence it is, that all ſuch *Jew*-women, as frequent the *Seraglio*, do become very rich; for what they bring in, they buy it cheap, and ſell it dear to them: but

Jewiſh-women.

Their arts.

Their falſe dealing.

but on the contrary, when they have jewels or the like commodities to ſell for the *Sultanas*, which are to be conveyed out by ſtealth, they receive a reaſonable price for them of ſtrangers, and then tell the ſimple ladies, who know not their worth, and are afraid to be diſcovered, that they ſold them peradventure for the half of that which they had for them. And by this means there come things of great worth out of the *Seraglio*, to be ſold abroad at eaſy rates: yet in the end the huſbands of thoſe *Jew*-women have but a bad market of it; for being diſcovered to be rich, and their wealth to be gotten by deceit, they oftentimes loſe both goods and life too; the *Baſhaws* and *Defterdars* altogether aiming at ſuch as they are, thinking by that means to reſtore to the *Grand Seignor* that which hath from time to time been ſtolen from him; and the rather for that they themſelves, under pretence of ſo good a work, may eaſily get ſhares in the eſtates of ſuch delinquents.

Ill ſucceſs.

But notwithſtanding they are generally known, and accounted, for fraudulent and falſe-hearted people; yet

yet there is ſcarcely a man of authority or eſteem among the *Turks*, and eſpecially the *Defterdars*, but hath a *Jew* for his counſellor, and aſſiſtant in the managing of his affairs; ſuch a good opinion they have of their ſufficiency, and ſo ready are the *Jews* to entertain any manner of imployment; ſo that their wives are not ſo great and powerful with the *Sultanas*, but they themſelves are as intimate with the *Baſhaws*, and other great ones of that rank.

Jews, counſellors to great men.

The women of the *Seraglio* are puniſhed for their faults very ſeverely, and extreamly beaten by their overſeers; and if they prove diſobedient, incorrigible, and inſolent, they are by the king's order, and expreſs command, turned out and ſent into the old *Seraglio*, as being utterly rejected and caſt off, and the beſt part of what they have is taken from them: but if they ſhall be found culpable of witchcraft, or any ſuch like abomination; then they are bound hand and foot, and put into a ſack, and in the night caſt into the ſea. So that by all means it behoveth them to be very careful and

Puniſhments of the women by blows.

By expulſion.

By death.

obedient, and to contain themſelves within the bounds of honeſty and good behaviour, if they mean to proſper, and come to a good end.

Prevention of Luſt.

Now it is not lawful for any one to bring aught in unto them, with which they may commit the deeds of beaſtly and unnatural uncleanneſs; ſo that if they have a will to eat radiſhes, cucumbers, gourds, or ſuch like meats; they are ſent in unto them ſliced, to deprive them of the means of playing the wantons: for they being all young, luſty, and laſcivious wenches, and wanting the ſociety of men, which would better inſtruct them, and queſtionleſs far better employ; them are doubtleſs of themſelves inclined to that which is naught, and will often be poſſeſs'd with unchaſte thoughts.

CHAP.

CHAP. V.

Of the Agiamoglans, *how taken, diſtributed, and imployed.*

HAving already ſpoken of the women, I muſt in the next place ſay ſomewhat of the * *Agiam oglans* which are in the *Seraglio*, and of their imployments.

* The word ſignifieth unexpert, or untutor'd youths.

There are ordinarily about ſix or ſeven hundred of them, from twelve to twenty five or thirty years of age, at the moſt, being all of them Chriſtians children (as almoſt all *Agiam-oglans* are) gathered every three years in *Morea*, and throughout all the parts of *Albania*; the which renegado children are diſpoſed of, as hereafter you ſhall hear.

6 or 700 *Agiam oglans.*

Agiam oglans, are renegados.

The number of them, which are to be taken, is uncertain; for there are gathered ſometimes more and ſometimes leſs, according as the *Capoochees* and officers appointed for

How they are taken.

that ſervice, in their own diſcretion, ſhall think fit; but the greateſt collection ſeldom or never comes to above two thouſand.

They are taken from ſuch families as are ſuppoſed to be of the beſt ſpirit, and moſt warlike diſpoſition; nor may they, when they are gathered, exceed twelve, or fourteen years of age at the moſt, leſt they ſhould be unfit for a new courſe of life, and too well ſettled in Chriſtianity to become good *Turks*. The *Capoochies* having finiſhed their circuit, and gathered their whole complement, bring them forthwith to *Conſtantinople*, to be diſtributed and ſhared out as followeth. So ſoon as they are arrived at the port, they are all clothed in coarſe *Salonichi* cloth, it makes no matter of what colour; and their caps are of felt of the form of a ſugar-loaf, of the colour of camel's hair; and ſo they are all brought to the *Vizir Azem*, who at that time is accompanied with the other *Baſhaws*, and officers of the *Seraglio*; that he may make choice of the moſt well favoured, and ſuch as he judgeth likely

How uſed, and apparelled.

Election of the beſt.

likely to prove the beſt ſpirits: then this choice being made, the ſaid youths, choſen by the *Vizir*, are carried by the *Buſtangee Baſhaw* into the King's own *Seraglio*, and there diſtributed to ſuch companies as want ſome to make up their compleat numbers. Then are they circumciſed, and made *Turks*, and ſet to learn the *Turkiſh* tongue; and according as their ſeveral inclinations are diſcovered and diſcerned by their overſeers, ſo are they encouraged in the ſame, and ſuffered to proceed: and ſuch, as have a deſire to learn, are taught to read and write; but generally all of them are taught to wreſtle, to leap, to run, to throw the iron weight, to ſhoot the bow, to diſcharge a piece, and, to conclude, all ſuch exerciſes as are befitting a *Turkiſh* ſoldier.

Their circumciſion.

Schooling.

Now part of the reſidue of them are diſtributed by the chief *Vizir* into all the *Grand Seignor*'s gardens, and houſes of pleaſure, and into ſuch ſhips as ſail for the King's account, and which go to lade wood, and ſuch like proviſion for the *Seraglio*; confining them to the maſters

The reſt how diſpoſed.

ſters of the ſaid veſſels, with condition to reſtore them again, when he ſhall require them: and ſo he doth with the chief arts-men of the city, of all ſorts of occupations, to the end that the youths may learn ſome trade, to keep them from idleneſs, when they are become *Janizaries*, and are at home: or if they will, they may practiſe the ſaid arts abroad, when they are at the wars, and reap great benefit for their pains. He lendeth likewiſe to all the *Baſhaws*, and *Grandees* of the court, many of them to ſerve them; but they are all delivered by name and written down in a book, that he may have them returned again, when there ſhall be occaſion to make them *Janizaries*. But theſe, which are given to the *Baſhaws*, are the ſcum and refuſe of all the reſt, and are employed only in the ſervice of ſtables, kitchins, and ſuch baſe offices of drudgery; and the better ſort of the reſidue are put into divers nurſeries, committed to the cuſtody and diſcipline of certain white eunuchs, who are appointed to be their overſeers,

ſeers, and to take care that they be brought up, and trained in military exerciſes, until ſuch time as they ſhall become fit to be entertained into the number of the *Janizaries*, in the room of the dead, or of old ones which are no longer fit for the wars, but are made * *Otooracks*, and have leave to ſtay at home; ſo that theſe of the latter ſort, kept in *Seminaries*, do indeed ſerve at all hands: the King, Queen, and *Vizir Azem*, imploying them alſo many times in their buildings, and other very laborious offices, without exception.

* *Milites emeriti*, the word is derived from *Otooracks* which ſignifieth to ſit down.

Theſe *Agiamoglans* being thus diſtributed; the chief *Vizir* preſents a book, wherein all their names are ſet down, to the King, who, having ſeen it, appointeth every one his penſion, according to the *Canon*: which is of two or three, or at the moſt of five *Aſpars* a day; and underwrites it with his own hand: the which book is forthwith conſigned into the cuſtody of the chief *Defterdar*: that ſo he ſeeing by the ſaid book what their ſeveral names and penſions are, they may duly receive their pay from him. Now this

Book and penſion.

this *Defterdar* is bound, ſo often as their pay is due, that is once in three months, to viſit them all if he can; inquiring who is dead, and taking good notice how the others live and ſpend their time; whether they profit or not, by their tutors and overſeers; that if ſo be things be not as they ſhould be, he may acquaint the *Grand Seignor* therewith, and have them amended.

I will now return to ſpeak of the *Agiamoglans* of the *Seraglio*; having not thought it ſuperfluous to have digreſſed a little, and to have ſpoken ſomewhat of the other *Agiamoglans* alſo: for it may peradventure prove delightſome to thoſe who have not as yet heard of thoſe paſſages ſo diſtinctly.

Agiamoglans of the *Seraglio* how uſed.

The *Agiamoglans* of the *Seraglio*, albeit they are choſen for the beſt uſes, out of the reſt, by the chief *Vizir*; yet are their firſt imployments but very baſe and ſlaviſh. For they ſerve in the ſtables, kitchins, gardens, for digging, for cleaving of wood; and are made to row in * *Kaiks*, and to lead the greyhounds a courſing, and whatſoever elſe they are

* Barges.

are commanded to do, by their † *Oda Baſhaws:* the which *Oda Baſhaws* are alſo *Agiamoglans* as they are, but of the higheſt rank and longeſt ſtanding, and have about fifteen aſpars a day; two veſts of cloth yearly; two pieces of linnen cloth for ſhirts and handkerchiefs; and ſo much ſattin or fine cloth as will make each of them a pair of *Chackſhirs* or breeches, after their faſhion down to the heels, and ruffled in the ſmall of the leg, as our boots are. Nevertheleſs theſe *Oda Baſhaws* are all under command of the *Kahiyah*, who is the *Buſtangee Baſhaw's* ſteward; now the *Buſtangee Baſhaw* himſelf hath daily about three hundred aſpars pay; for he is their patron, judge, and protector. And as any *Turk* whatſoever may be known of what degree he is, by the bigneſs and making up of the turbant which he wears, and by ſome other tokens which they obſerve in their habit; ſo to the end that the *Oda Baſhaws* and * *Bulook Baſhaws* may be known from the common ſort of *Agiamoglans*, they wear broad ſilken girdles of divers colours

† Heads of the companies of *Agiamglans.*

Oda Baſhaws wages.

Government.

* Theſe and the *Oda Baſhaws* are of equal authority.

colours about their middles, and are allowed a larger ſtipend: who, by authority given them from the † *Kabiyah*, do bring the underlings to ſuch an extraordinary ſubjection and ſufferance, by their often beating them upon the leaſt miſdemeanor; that they do not only not refuſe all manner of pains taking, but patiently undergo whatſoever is done unto them.

† *Buſtangee Baſhaw's* ſteward. Slavery.

They have their terms and prerogatives amongſt themſelves; preceding or ſucceeding one another according to the length of time which they have ſpent in the *Seraglio:* ſo that in proceſs of time, if they ſtill continue there, and are not ſent out upon other occaſions, they may aſpire to the degree of chief ſteward to the *Buſtangee Baſhaw*, or of *Buſtangee Baſhaw* himſelf, which is a very eminent place; for he hath the keeping of all the *Grand Seignor*'s garden houſes, and ſteers the King's * *Kaik*, and weareth a turbant upon his head in the *Seraglio*, altho' he were but lately an *Agiamoglan* as the reſt are, and did wear one of the aforeſaid felt caps: who alſo (if he

Poſſibility of preferment.

* Barge.

he be in grace with the King, as commonly every *Buſtangee Baſhaw* is) may riſe to greater dignities, as to be captain *Baſhaw*, *Baſhaw* of *Cairo*, *Damaſcus*, *Aleppo*, *&c.* nay ſometimes to be *Vizir Azem.*

Theſe *Agiamoglans* are not altogether debarred from liberty, and going abroad, but may upon good occaſion be licenſed to go whither they pleaſe, although at the firſt they are ſtrictly look'd unto: and the *Buſtangee Baſhaw* always takes with him good ſtore of them, when by his Majeſty's order he is ſent to put ſome great man to death: the which is commonly done by the hands of four or five of the chiefeſt, and ſtrongeſt of the ſaid *Agiamoglans.*

There are ſometimes natural born *Turks* brought in amongſt them, but indeed very ſeldom, by means made to the *Buſtangee Baſhaw*, who therein doth greatly pleaſure ſuch poor folks as are willing to be rid of their children: but it muſt be firſt made known to the *Grand Seignor*, and done with his conſent, For the natural born *Turks* are not held to be of ſo brave ſpirits, and fit for ſervice,

Some *Turks* among them.

vice, as the other: and for divers other reſpects beſt known to themſelves, as the increaſing the number of * *Muſſulmen*, and the like, they do not willingly admit of any but Chriſtians children.

* True believers.

Their rooms. Their rooms, bagnoes, and kitchins, are joined to the walls of the *Seraglio* without; divided ſeverally, and equally, for each company of them, and built for the more commodity of ſuch offices and ſervices, as the ſaid *Agiamoglans* are appointed for.

Their diet. And as for their diet, they order it as they pleaſe, having fleſh and pulſe for their pottage; their bread alſo, and every thing for their food, delivered unto them daily from the * *Keeler*, and the dreſſing of it left to themſelves. Now for that many of them lie near the ſea-ſide, they take good ſtore of fiſh, part of which they ſell, and reſerve the reſt for their own eating.

* Buttery.

Their ſleeping. They ſleep always in their cloths, putting off only their uppermoſt coat, and their ſhoes, according to the ordinary cuſtom of the poorer ſort of *Turks*; between a couple of rugs

rugs in the winter, and thin blankets in the ſummer.

They never ſee the King, unleſs it be when he paſſeth through the gardens, or when he taketh boat, or elſe when he goeth a hunting; for he makes them ſerve inſtead of hounds to find out his game: but when his Majeſty will be in the gardens to take his pleaſure, and make paſtime with his concubines, then all the *Agiamoglans* being warned by an eunuch, who crieth aloud * *Helvet*, do preſently get out with all ſpeed at the gates by the ſea-ſide, where they may walk upon the banks and cauſeys, but muſt not dare to go in again until the King and his women be departed: for there may none come near, nor be in ſight of them, but himſelf and his black eunuchs: nay if any other ſhould but attempt, by ſome trick in creeping into ſome private corner, to ſee the women, and ſhould be diſcovered, he ſhould be put to death immediately. Every one therefore, ſo ſoon as they hear *Helvet* cried, runs out of ſight as far

* A word commanding abſence, and retiring: never uſed but for the King.

None may ſee the King's women.

far as they can, to be free from all fear and ſuſpicion.

Now of this rank of *Agiamoglans* which are in the King's *Seraglio*, they never make *Janizaries*, as they do of thoſe which are brought up in the other *Seraglios* and Seminaries; and of ſuch as are lent to divers of the King's ſubjects, as tradeſmen, maſters of ſhips, and the like, and to the *Baſhaws*: but his Majeſty's turn being ſerved of theſe, he beſtows them upon his gentlemen *Aghas*, when he imploys them abroad in ſome principal government, that they may be faithful aſſiſtants unto them in their buſineſſes, and that in time they themſelves may become men of worth; as often they do, if by by their diligence, and fidelity, they prove to be men of good deſert.

The *Janizaries* are made of *Agiamoglans* in other Seminaries.

Other uſes of them.

The *Grand Seignor* likewiſe maketh great uſe of them, when he intendeth a journey to any place; as when he goeth to the wars, or any whither elſe, far from *Conſtantinople*; for the pitching of his tents, for removing, and carrying of cheſts and baskets, and many other ſuch like

like ſervices, as muſt be done at thoſe times: for which imployments the King never takes with him leſs than three or four hundred of them.

CHAP. VI.

Of the King's * Itchoglans, *their ſevere diſcipline, and education in four ſubordinate ſchools; and of their after advancements.*

* This word ſignifieth, youths within: and they are ſo called, becauſe they are reſerved for the ſervice of the King's perſon.

IT now remaineth that I ſay ſomewhat of the *Grand Seignor's Itchoglans*; which are youths kept alſo in the *Seraglio*, but in far better faſhion then the *Agiamoglans*; and are, for the King and country's ſervice, brought up in learning, in the knowledge of the laws, and in military exerciſes; that they may in time be made able to perform *Itchoglans.*

thoſe things, which belong to the government of the whole empire. And albeit for the moſt part theſe are Chriſtian captives and renegados, yet there are ſome natural born *Turks* amongſt them, (which muſt be youths of very comely aſpect, and their outſides muſt promiſe a great deal of worth and goodneſs) brought in by the *Capee Agha's* means, who is chief chamberlain, with the King's conſent: but this happeneth but very ſeldom, and is effected with great difficulty; for the ancient inſtitution was, that the *Itchoglans* ſhould always be made of chriſtian renegados, and captives only, of the moſt civil and nobleſt that could be found.

Turks hardly admitted.

Wherefore, when in the wars, either by ſea or land, it happens, that any youth is taken, who is diſcovered to be of noble parents and comely perſonage; or if any ſuch voluntarily come and offer himſelf to become *Turk* (as divers have done in hope of advancement) he is preſently mark'd, and ſet apart for the *Grand Seignor*; and is, ſo ſoon as he is thought capable and

Noble captives.

and apprehenſive, inſtructed in matters of government, being as it were ordained for great imployments. Now ſuch are of very great eſteem: for the *Turks* themſelves affirm, that nobleneſs of birth cannot but produce the moſt virtuous and generous ſpirits; eſpecially when it is ſeconded and accompanied with good education, which is profeſſed in the *Seraglio*, where there is great ſeverity uſed in all the orders of diſcipline, the government of them being in the hands of the maſters, who are all white eunuchs for the moſt part, and very rough and cruel in all their actions; inſomuch that their proverb ſaith, that when one cometh out of that *Seraglio*, and hath run through all the orders of it, he is, without all queſtion, the moſt mortified and patient man in the world. For the blows which they ſuffer, and the faſtings which are commanded them for every ſmall fault, are to be admired; nay, ſome of them are ſo cruelly handled; that although their time of being in the *Seraglio* be almoſt expired, and that they ſhould in a few years

Eunuchs cruel.

Puniſhments.

come forth to be made great men; yet, not being able to endure ſuch cruelty any longer, they procure to be turned out, contenting themſelves with the title, and ſmall pay of a *Spahee* or a *Mutaferraka*, rather then be ſo often puniſhed and made weary of their lives, in expectation of greater preferments.

Their number.

The number of theſe *Itchoglans* is uncertain, for there are ſometimes more, and ſometimes leſs of them; but as I have heard, they are commonly about a hundred, the *Grand Seignor* being very willing to entertain all ſuch as are given him of the aforeſaid quality, be they never ſo many; provided they be young when they are firſt brought unto him.

The courſe that is taken with them, ſo ſoon as they come into the *Seraglio*, is admirable, and nothing reſembling the barbariſm of *Turks*, but beſeeming men of ſingular virtue and diſcipline. For they are exceeding well entered, and daily taught, as well good faſhion and comely behaviour, as they are inſtructed in the rites and ceremonies

Diſcipline in religion and civility.

of

of the *Mahometan* law, or whatſoever elſe may tend to the enriching of their minds.

And for this purpoſe they have rooms, which the *Turks* call ‡ *Odas*, but we may more properly, in regard of the uſe they are put unto, call them ſchools: of which there are four, the one taking degrees from the other. Now into the firſt they all come when they are but children, where the primary precept they learn is ſilence; then their perſonal poſtures, againſt ſuch time as they ſhall be about the King, which is, that they hold down their heads, and look downwards with their hands before them joined acroſs; all which betokeneth ſingular reverence.

‡ *Oda* ſignifieth a chamber, or room.

Four *Oda* ſchools.

Firſt ſchool.

Firſt leſſon is ſilence.

Second reverence.

Then, by a white eunuch, who is chief over all the other maſters, and uſhers, they are ſet to learn to write and read; to practiſe the *Turkiſh* tongue; and are taught their prayers in the *Arabian* tongue by heart. And in this *Oda* they are both morning and evening ſo diligently followed, and carefully look'd unto, that by report it is a thing of

Third, to write and read, and ſpeak *Turkiſh*; and ſay the *Arabian* prayers by heart.

admiration. Now in this firſt ſchool they uſually ſtay about five or ſix years; and ſuch as are dull, and hard of apprehenſion, ſtay longer.

But by the way, before I come to the next, I may not omit to tell you, that ſo ſoon as they are given to the King, before they are of the firſt *Oda*, they are regiſter'd by their *Turkiſh* names in a book, and the names of their native countries ſet down with them; the *Grand Seignor* allowing them a ſmall penſion of four or five aſpars a day; the copy of which book is alſo ſent to the great *Defterdar*, that every one of them may in due time, that is quarterly, have the aforeſaid penſion ſent unto them.

Book or check-roll.

From the firſt *Oda* they are removed to the ſecond, where, by more learned and ſufficient tutors than the former, they are taught the *Perſian*, *Arabian*, and *Tartarian* tongues; and take great pains in reading divers authors, that they may be the better able to ſpeak the *Turkiſh* elegantly; which cannot be done without ſome knowledge, and good inſight in thoſe three tongues, upon

Second ſchool. Fourth Rhetorick, *Perſian*, *Arabian*, and *Tartarian* tongues.

upon which the *Turkiſh* chiefly doth depend; and indeed there is found a great difference between their ſpeech, and that of the vulgar ſort.

Here alſo they begin to learn to wreſtle, to ſhoot in the bow, to throw the iron mace, to toſs the pike, to run, and to handle their weapons, *&c.* And in theſe exerciſes in their ſeveral orders and ſeveral places, they ſpend whole hours; being ſeverely puniſhed if they ſhall in any wiſe ſeem to grow negligent. Fifth bodily exerciſes.

They ſpend likewiſe other five or ſix years in this *Oda*; whence, being become men, ſtrong, and fit for any thing, they are removed to the third *Oda*; where, forgetting nothing of what they learned before, but greatly increaſing their knowledge, they alſo learn to ride, and how to behave themſelves in the wars. Third ſchool. Sixth, Horſemanſhip and activity.

Moreover, every one of them, according as he is thought fit for it, here learns a trade, neceſſary for the ſervice of the King's perſon, *videlicet*, to ſhave, to make up a Seventh, Trades.

turbant, to fold up apparel handſomely, to pair nails, to attend at the *Bagno*, to keep hawks, and land-ſpaniels, to be ſewers, querries of the ſtable, target-bearers, to wait at table, and the like: as hereafter I ſhall ſhew, ſo that, having been in theſe offices a few years, they become men able to teach others.

Meanly clothed, whilſt they are in the three firſt ſchools.

But, whilſt they are in theſe three ſchools, they are but meanly apparel'd, having yearly their two veſts of cloth ſomewhat fine, but their linnen is ſuch as the *Agiamoglans* wear.

Puniſhments.

The puniſhments alſo, which they ſuffer in this *Oda*, are extream, for their maſters often give them an hundred blows with a cudgel upon the ſoles of their feet and buttocks, inſomuch that they leave them oftentimes for dead.

Cloſeneſs.

Neither are they permitted, ſo long as they are in theſe three *Odas*, to be familiar with any but themſelves, and that with great modeſty too; ſo that it is a matter of great difficulty for any ſtranger to ſpeak with them, or ſee them; which if it be obtained, it muſt be by expreſs leave from the

the *Capee Agha*, who cauſeth an *Ennuch* to be there preſent, ſo long as any ſtranger ſhall be in the company of the ſaid youths. Nay, when they have occaſion to go to the *Bagno*, or the like buſineſſes, the eunuchs are always at hand, that ſo by all means they may be kept from lewdneſs. And in their bed-chambers, which are long rooms, and hold about thirty or forty in each of them, (for they ſleep near one another upon the *Sofas*,) there are every night lamps burning, and eunuchs lying by them to keep them in awe, and from leud and wanton behaviour.

Bed-chambers.

In the third *Oda*, ſome of them do alſo learn ordinary Mechanick arts, as ſewing in leather, (which is in great uſe and eſteem amongſt the *Turks*) to mend guns, to make bows and arrows, and quivers, and the like; from which trades they often have both their ſirname and their reputation too. For they are much made of, who will be diligent, and fly idleneſs; holding it rather an honour, than an ignominy, to have a trade. For therein they imitate

Sewing in leather, &c.

imitate the *Grand Seignors* themſelves, who, for good example ſake, in their youth are taught ſome trade or other; which although they never practiſe when they are Kings, yet they are willing their ſubjects ſhould know that they are able to do it, if they pleaſe. And divers great men, nay, *Baſhaws* themſelves, both have been, and are to this day called by the names of ſuch arts, as they practiſed, when they were in this *Oda*.

They take their *cognomina* from Trades.

Here alſo the eunuchs, their tutors, make trial of their conſtancy in religion, ſearching, as far as in them lies, their hearts, to ſee how they ſtand affected to *Turciſm*. For the time growing near, wherein they are to paſs to the fourth *Oda*, which is the chiefeſt and laſt, and from which they are called to buſineſs of great importance, they would not then have them at all remember that they were formerly Chriſtians, or to have the leaſt deſire imaginable to turn to their firſt belief; leſt that they ſhould in time, by ſome ſtratagems and politick courſes, peradventure prove

Trial of Religion.

diſ-

diſadvantageous to the *Turkiſh* empire. So then all poſſible proof and trial being made, and they found to be ſtrongly perſuaded of the truth of that religion; they then are preferred to the fourth *Oda*, where they are once more regiſter'd. For all they, which are of the third *Oda*, are not tranſlated to the fourth at one and the ſame time; but only ſuch as have gone through all the degrees of diſcipline in the three former, and are become fit for ſervice. And there is a note kept apart of them, which come into this fourth *Oda*. For they are immediately ordained for the *Grand Seignor's* own ſervice, and have their pay increaſed ſome more, and ſome leſs unto eight aſpars a day, and their habit changed from cloth to ſilk and cloth of gold of great price.

Fourth ſchool.

Preferments.

Now here their puniſhments ceaſe: but they continue ſtill with their heads and beards ſhaven; only they ſuffer ſome locks to grow on each ſide, from their temples; which hang down below their ears, for a ſign that they are the next which are capable of the preferment

Puniſhments ceaſe.

ment of coming into the King's chamber.

Neatneſs. They muſt be very cleanly, and neat in their apparel, before they come about the *Grand Seignor*'s perſon; many of them ever accompanying his Majeſty when he goes abroad upon pleaſure, provided none of his women be with him. And they may now freely converſe with all the great men of the *Seraglio*, and with the *Baſhaws* alſo; and are often preſented with gifts by men of the beſt quality, to inſinuate into their favour; hoping that they one day may become men of great command, and ſo be able to ſtand them in ſtead in their occaſions.

Now out of theſe young men of the fourth *Oda*, after they have finiſhed the appointed term of years, and have been made perfect in all things as aforeſaid, the King chooſeth his *Aghas*, which are his gentlemen, that attend only upon him; whoſe names, and places, are as follow.

1. The *Silihtar Agha*; the King's ſword bearer.

2. The

2. The *Chiohadar Agha*; he which carrieth his *Yagmoorlick.*

3. The *Rechiubtar Agha*; yeoman of the ſtirrup.

4. The *Mataragee Agha*; he which brings him water to waſh his hands and face.

5. The *Telbentar Agha*; he which brings him his *Turbant.*

6. The *Kembaſir Agha*; he which looketh to his apparel, and the waſhing of his linnen.

7. The *Cheſhneghir Baſhaw*; the chief ſewer.

8. The *Dogangee Baſhaw*; the chief falconer.

9. The *Zagargee Baſhaw*; the chief huntſman.

10. The *Turnackgee Baſhaw*; he which paireth the King's nails.

11. The *Berber Baſhaw*; chief barber.

12. The *Hamawmgee Baſhaw*; he which waſheth the King in the *Bagno.*

13. The *Muhaſabegee Baſhaw*; the chief accomptant.

14. The *Teskeregee Baſhaw*; his Majeſty's ſecretary.

All

All which are made of the eldeſt ſort of the *Itchoglans* of the fourth *Oda*; and theſe are always in his Majeſty's preſence, holding down their heads, for they may not be ſo bold as to look him in the face, and ſtanding with their hands acroſs before him, in token of reverence and humility. Nor may they preſume at all to ſpeak to the *Grand Seignor*, nor in his preſence to one another: but if the King ſhall command, or call for aught, they are wonderful ſpeedy, and ready to obey. They all do execute their offices diſtinctly, as aforeſaid, and attend in places appointed for them, that they may be the better able to perform their ſeveral duties, and the more ready to obey at every beck. At the hours of dinner and ſupper they wait in the room, taking the meat from the hands of the under-*Sewer* at the door, and ſo his Majeſty's table being made ready, which is of a *Bulgar* hide, upon a *Sofa*, they bring in meat, which is ſet thereon orderly diſh by diſh, by the chief *Sewer*, before the King; and is taken off

Geſture.

Waiting.

Great *Turk's* Table.

off again as his Majeſty ſhall appoint.

The *Grand Seignor* is very well pleaſed with theſe *Aghas*, and takes great delight in their ſervice and company, for that they are, as I may ſay, of his own planting, making them ride on horſe-back, and playing with them at ſeveral ſports, eſpecially at the * *Jereet*, at ſuch times as he is well diſpoſed; ever gracing them with beſtowing gifts on them, of veſts, ſwords, bows, and the like, and oftentimes ready money: all which came before to the King's hands by way of gift. Now beſides thoſe favors, his Majeſty at convenient times uſeth to beſtow upon them the diſpatching of ambaſſies for foreign parts; which is a merchandiſe held by them to be of a great price, and bringeth no ſmall profit into their purſes. For one of them having his commiſſion from the *Grand Seignor* for ſuch or ſuch a Prince, howbeit it is not intended that he ſhould go, preſently informs himſelf what that Prince uſually doth preſent the Ambaſſador withal; and ſo accordingly

Exerciſes.

* A kind of running at baſe on horſe-back, darting lances one at another.

Gifts.

Ambaſſages conferred.

cordingly agreeth with a *Chiauſh* or with one of ſuch like quality, to undertake the ambaſſage; who muſt give for the ſame, as they two can agree between themſelves; either in ready money before his departure, or otherwiſe at his return, as the *Agha* ſhall think beſt for his profit; and ſo forthwith he gives expedition to the party choſen.

This kind of imployment proves wonderfully beneficial. For in the eſtabliſhing of the Princes of *Walachia*, * *Bugdania*, *Tranſilvania*, and of the King of *Tartary*, to all which Princes the *Grand Seignor* ſendeth Ambaſſadors for confirming their poſſeſſion of the ſaid dominions, they, which are ſent, receive great benefit; it being ſpecified in their *Canon*, how much every one is to diſburſe for being honoured with that ſolemnity; though peradventure they be † *Maazold* again, before they be ſcarce warm in their places.

Vaſſal Princes.

* *Moldavia.*

† Diſplaced; or turned out of office.

And this the King doth of policy, to the end his gentlemen may become rich, laying up money to ſerve for their neceſſary expences, and

and furnishing them by that means with divers things, against such time as they shall go forth of the *Seraglio*; which is as often as his Majesty thinks fit, and that most commonly on a sudden; either to be general at sea, *Bashaw* of * *Messur*, † *Halep*, ‡ *Shawm*, *Babylon*, or of some other such great cities, which have whole provinces under them. The *Grand Seignor* gives also to each of them, when he sends them forth upon any of the aforesaid imployments, a * *Musahib*, that is in effect, a helping companion; such an one as shall have liberty freely to talk with him, and go out and in unto him when he pleaseth: the which title, and favour of being made *Musahib* to any of the *Aghas*, proves to be of so great reputation, that it is esteemed above any other sort of imployment. For as it is hard to be obtained, so it is only bestowed upon such subjects as have deserved well at the King's hands.

Their going forth of the *Seraglio* to the chief offices.

* *Cairo.* † *Aleppo.* ‡ *Damascus.*

* The word signifieth, a familiar talker or discourser.

Musahib.

And this hath been a course used of old, by the *Grand Seignor*'s progenitors, that they may have some trusty subjects abroad, to give notice

A politick course.

to the *Port* of the carriage of the *Baſhaws* in their ſeveral regiments, or of any other; if ſo be they ſhould attempt any thing that might be prejudicial to the crown; that ſo the King by cutting off their proviſion, and the like, may eaſily anticipate their plots and deſigns.

But if his Majeſty be not pleaſed, or the occaſion do not require, ſo highly to exalt ſome one of the aforeſaid *Aghas*, as to be of the degrees already named; he then makes him *Beglerbeg* of *Græcia*, or of *Natolia*; *Agha* of the *Janizaries*; *Spaheeler Aghajee*, which is head over all the *Spahees*; *Imrohor Baſhaw*, which is maſter of the horſe; or at the leaſt a *Capoochee Baſhaw*, which is head over the *Capoochees*.

Other offices.

The *Grand Seignor* having beſtowed any of the ſaid places upon them, they forthwith leave the *Seraglio*, and carry with them all their eſtates, both money and goods; and oftentimes take with them other young men of the other *Odas*, who are permitted to go, through their own haſtineſs, and great importunity, not being willing to ſtay out their

their time; but, losing the King's favour, are content with small pay, and lesser reputation, to go along with the said *Aghas*.

Such as are to go out, upon the greatest imployments, are accompanied forth of the King's *Seraglio* by the *Vizir Azem*; who also presenteth them, and giveth them entertainment for three or four days in his house, until such time as they can be provided of houses of their own, whither afterwards they repair, and set their families in order; taking also unto them such as are come out of the *Seraglio* with them for assistants, and ministers, in the charge assigned unto them. They also accept of the service of strangers, who come in by gifts; which likewise redounds to the benefit and advantage of the great ones.

Order in succession.

They which succeed in preferment those that are gone out of the *Seraglio*, upon the aforesaid imployments, are, as the custom commandeth, such as are next in years unto them, and of the longest residence. Nor can this course be altered, unless by some sinister accident

or evil behaviour they fail thereof: ſo that it is always known amongſt themſelves, who is next capable of publick imployment; nay, the buſineſs is ſo orderly carried, and their courſe ſo regular, that even they of the third *Oda* do know what their future fortunes will be, if they live to enjoy them. And indeed all of them live in continual hope, and deſire, that the *Grand Seignor* would often be pleaſed to ſend them abroad; that ſo they may the ſooner be out of their hard ſervice in the *Seraglio*, and enter into the ſtate of ample government. It is no marvel then the *Turkiſh* officers are ſo often changed, ſeeing that every *Grand Seignor* hath ſo many ſervants of his own, that ſeek for advancement.

They are moſt commonly of five and thirty, or forty years of age, before they are ſent abroad: and, becauſe they come out of the *Seraglio* with their beards ſhaven, they are fain to ſtay within doors, for ſome days, to let them grow, that they may be fit to come amongſt other great men; with which ſtaying at home

home they are very well contented. For in that time they receive the preſents which are ſent them from all the *Sultanas*, of veſts, ſhirts, linnen breeches, and handkerchiefs, of all ſorts, richly wrought and of great worth; and from the *Baſhaws* and other great men, horſes, carpets, veſts, ſlaves, and other things, fit for the erecting and furniſhing of an houſe and family; the which preſents are made the greater, and richer, by ſo much the more as the party, to whom they are given, is known to be favoured and beloved of the King.

Preſents from great perſons whilſt they ſtay.

Now ſo ſoon as their beards are grown, they go abroad, and begin their viſits; firſt, to the chief *Vizir*, and then in order to the other great ones, till they have been with them all; and laſt of all, offer their ſervice to the *Capee Agha* in all humble manner, acknowledging that all their beſt fortunes and honours have been conferred upon them by his means, and promiſing for ever all dutiful reſpect unto him for the ſame.

Coming abroad and viſitings.

Capee Agha viſited.

But this compliment with the *Capee Agha* is performed, without the gate on the King's ſide, which is kept by the white eunuchs; for they may not come any more within that gate, unleſs they be called for by the King, for to treat of things belonging to their imployments, before their departure.

They all ſtrive to gain the love and good will of the *Capee Agha*, that he may be as a protector, and patron unto them, and that, when they are abſent, he may poſſeſs the *Grand Seignor* with a good opinion of them; for they know he is very powerful with him, being the chiefeſt in the *Seraglio*, and always neareſt to the King.

The power of the *Capee Agha*.

CHAP.

CHAP VII.

Of inferior perſons, as Buffons, Mutes, Muſicians; *of the* white Eunuchs, *and of the Grand Officers of the* Seraglio.

BEſides the women, and the *Agiamoglans* of this *Seraglio*, and the aforeſaid youths the *Itchoglans* laſt ſpoken of, there are many other miniſters for all manner of neceſſary ſervices. There are alſo * *Buffons*, and ſuch as ſhew tricks, muſicians, wreſtlers, and many † *Mutes* both old and young; who have liberty to go in and out at the King's gate, with leave only of the *Capee Agha.* It is worthy the obſervation, that in the *Seraglio* both the *Grand Seignor*, and divers that are about him, can reaſon and diſcourſe with the *Mutes* of any thing, as well and as diſtinctly, *alla*

* Jeſters.

† Dumb men.

Diſcourſe by ſigns.

Muteſcha, by nods and ſigns, as they can with words; a thing well beſitting and ſuiting with the gravity of the better ſort of *Turks*, who cannot endure much babbling. Nay, the *Sultanas* alſo, and many other of the King's women do practiſe it, and have many dumb women and girls about them for that purpoſe.

This hath been an ancient cuſtom in the *Seraglio*, to get as many *Mutes*, as they can poſſibly find; but chiefly for this one reaſon, which is, that they hold it a thing unbefitting the *Grand Seignor*, and not to ſuit with his greatneſs, to ſpeak to any about him familiarly; wherefore he takes this courſe, that he may the more tractably and domeſtically jeſt, and talk with the *Mutes*, and with others that are about him, to make him pleaſant, with diverſity of paſtime.

A further uſe of them.

The King, beſides that, makes another uſe of them; and that is this, when his Majeſty ſhall reſolve with himſelf to put a *Vizir* to death, or ſome one of that rank; and that he be willing to ſee it done with his own eyes in the *Seraglio*; he then having

having called him into one of his rooms, and holding him in diſcourſe whilſt his *Mutes* are in readineſs (the poor man peradventure ſuſpecting nothing) he makes but a ſign unto them, and they preſently fall upon him, and ſtrangle him, and ſo draw him by the heels out of the gates.

Mutes ſtrangle men in the *Seraglio.*

But that which, in my opinion, is admirable in theſe *Mutes* (who being born deaf, and ſo of neceſſity muſt remain dumb) is, that many of them can write, and that very ſenſibly and well: now how they ſhould learn without the ſenſe of hearing, I leave to others judgments; but I am ſure I have ſeen it, and have myſelf made anſwer to them in writing.

Mutes can write.

It followeth now that I ſpeak of the white eunuchs, who as the black ones are for the ſervice and attendance of the *Sultanas*, and for the keeping of their gate; ſo are the white eunuchs appointed for the King, and his gate. But there are four ancient and principal men amongſt them, which attend only the moſt truſty and important imployments, both about the King's perſon,

White eunuchs.

Four principal eunuchs in the *Seraglio.*

perſon, and his houſhold. Of which, the firſt is the *Capee Agha*, for he is the principal of all the white *eunuchs*, and is chamberlain: the ſecond is the *Hazinehdar Baſhaw*, the treaſurer of the houſe: the third is the *Keelerge Baſhaw*, the chief butler, and maſter of the wardrobe: the fourth is the *Sarai Agaſee*, the keeper of the *Seraglio*.

Firſt and chiefeſt; the *Capee Agha* or chamberlain.

2. Treaſurer of the houſe.

3. Maſter of the wardrobe.

4 The keeper of the houſe.

Capee Aghas privileges.

Of theſe four old eunuchs, the *Capee Agha*, as I ſaid, is chief in authority, and in greateſt eſteem with the *Grand Seignor*. For none but he can of himſelf ſpeak with his Majeſty, neither can any meſſages, writings, or petitions be ſent in, ordinarily, but by his hand and means. He likewiſe doth always accompany the King's perſon, whitherſoever he goeth, both without, and within the *Seraglio*. And when he goeth to his women alſo, he waiteth upon him to the very door, which leadeth in unto them: but there he ſtoppeth, and ſo returns to his own lodgings again; ever leaving ſomebody to wait at the ſaid door, that, when the King is ready to come away from them, they may call him. The *Capee Aghas* ordinarily penſion is

His penſion.

* eight

* eight † *Sultanas* a day, beſides veſts, and other neceſſaries, as many, as he will. He alſo gets great ſtore of money (and indeed, more than befits a man, that hath ſo ſmall occaſion of expence, as he hath, (by virtue of his place. For that, both they of the *Seraglio*, and thoſe abroad, of what condition or degree ſoever they be, to obtain his favour, and furtherance in any buneſs, preſent him with all that they can imagine may give him content, whatſoever it coſt.

* About 3 *l.* ſterling.

† They are called *Sultanas*, becauſe they are coined at *Conſtantinople*, where the *Sultan* lives: they are worth about 7 *s.* 10 *d.* a piece.

Preſents.

The ſecond is, the *Hazinehdar Baſhaw*, and he hath the charge, and keeping of the treaſury, which is within the *Seraglio*; he having one key of it, and the *Grand Seignor* another; the door being likewiſe ſealed with the King's ſeal, which is never taken off, but when the King himſelf gives order for the opening of the ſame. In this *Hazineh* are all the treaſures, which have been laid up by the deceaſed Emperors; and into this cometh no other revenue of the crown, than that from *Egypt*, and the adjacent provinces, of * ſix hundred thouſand chicquins

The Treaſurer.

Treaſure.

* 240 thouſand pounds ſterl.

chicquins yearly, all the other revenues going into the outward *Hazineh*; out of which all expences are born, both ordinary and extraordinary: but there is not aught taken out of the aforeſaid inward *Hazineh*, unleſs it be upon extream neceſſity, when the *Grand Seignor* is not otherwiſe provided, to appeaſe the outcries and threatenings of the ſoldiers for their pay, or for ſome other the like occaſion; and this ought to be done with this *proviſo*, that the *Grand Defterdar* be bound to make it good again to the utmoſt aſpar; but I ſuppoſe they have not of late been able to perform it.

Outward treaſury.

This *Agha* muſt keep an exact account of all the treaſure that is brought in, or taken out of the ſame; nor may any go into the ſaid *Hazineh*, but only he himſelf, and ſuch as he ſhall take in with him, when occaſion ſhall require. And when there is any gold or ſilver taken out, it is all put into leather bags, and ſo brought unto the King, who diſpoſeth thereof as he thinketh fit.

Houſhold treaſurer's office.

He

He hath also the custody of all the King's jewels, of which he keepeth a book by himself, that he may know what jewels the King gives away, what jewels are given to the King, and what are likewise for his Majesty's own wearing; and, the *Capee Agha* dying, he succeeds him in his place.

The third, which is the *Kevler-gee Bashaw*, keeps the King's wardrobe; into which are brought all the presents which are given to the *Grand Seignor*, as cloth of gold, plate, silks, woollen clothes, furs of all sorts, swords, brooches, raw silk, carpets, and whatsoever else may serve for his Majesty's use, either to keep or give away. Of all which things he keeps particular notes and inventories, to the end he may also at any time see what is given to the King, and what the King gives away to others; the which is a very painful imployment, inasmuch as his Majesty doth, every day, as well take as give a great number of vests and other such like things. But the business is so well ordered and carefully look'd unto, that there doth not

Master of the wardrobe.

Busy imployment.

not follow any confuſion at all. This eunuch hath many ſervants under him, and ſtays always, for the moſt part, within the *Seraglio*: his penſion is a * thouſand aſpars a day, beſides veſts and other ſuch gifts, which are given him in abundance from time to time: he alſo is much favoured, and graced by the King, for that he is to ſucceed the *Hazinehdar Baſhaw*; in caſe the ſaid *Hazinehdar* ſhould die, or change his place: and is well eſteemed of, and reverenced by all, as well without, as within the *Seraglio*.

His Penſion.

* 50. *s. Sterl.* at 20 aſpars the ſhilling.

The fourth and laſt, which is the *Sarai Agaſee*, hath charge to look unto the *Seraglio*; nor doth he ever go out of it, eſpecially in the *Grand Seignor*'s abſence; but is very vigilant, not only in ſeeing all things prepared for the daily ſervice of the ſame, but alſo to look over all the rooms, and ſee that they be well kept; and to eye the officers, and ſervants of the houſe, marking whether they exerciſe themſelves, or no, in their ſeveral functions. Now becauſe he is ancient, and his buſineſſes great, he hath liberty to ride within

Keeper of the *Seraglio*.

His liberty.

in the *Seraglio*, about the courts, and gardens, and by the ſea-ſide, as the three former *Aghas* are alſo permitted to do; for which purpoſe they have a ſtable of horſes in a garden, for their uſe alone.

His penſion is * eight hundred aſpars a day, beſides an allowance of veſts, and furs, as many as he can well have occaſion to wear, and his ſucceeding the *Keelergee Baſhaw*; and ſo by courſe the *Capee Agha*, if he out-live the reſt. Penſion. * 40 *s. ſter.*

And although all theſe four eunuchs may wear turbants in the *Seraglio*, and ride (being the chief next the King himſelf in authority within the *Seraglio*) and are reverenced and reſpected of all men; yet the three laſt, *viz. Hazinehdar Baſhaw*, *Keelergee Baſhaw*, and *Sarai Ageſſee*, may not of themſelves when they liſt ſpeak to the *Grand Seignor*, but only anſwer when any thing is asked of them. Howbeit they always attend, with the *Capee Agha*, the perſon and ſervice of the King, with all the eunuchs under them, and the aforeſaid *Aghas*, and *Itchoglans* already ſpoken of: but Differing privileges.

theſe

these four only govern, and manage the King's houshold affairs; and give order for all things needful and necessary, as well for the days as for the nights provision.

200 eunuchs in the *Seraglio.*

All the eunuchs in the *Seraglio* may be in number about two hundred, what with old ones, middle aged, and young ones: they are all of them not only gelt, but have their yards also clean cut off, and are chosen of those *Renegado* youths, which are presented from time to time to the *Grand Seignor*, as aforesaid: few, or none of them, are gelt and cut against their will. For then, as the master workmen in that business do affirm, they would be in great danger of death: wherefore, to get their consent thereto, they promise them fair, and shew unto them the assurance they may have, in time, to become great men; all which must be done when they are very young, at their first coming into the *Seraglio*. For it is a work not to be wrought upon men of years.

Their gelding.

Their education in the four *Odas.*

They are brought up with the *Itchoglans*, and are instructed in many

many things as well as they; being removed alſo from one *Oda* to another; and are laſt of all taken out by turns of the fourth *Oda*, for to ſerve the *Grand Seignor* as well as thoſe which are not eunuchs.

His Majeſty likewiſe employs ſome of theſe his white eunuchs in the government of all the other *Seraglios*, and Seminaries of youth, as well in *Conſtantinople*, as in *Adrianople*, *Burſia*, and in divers other places: in each of which there are commonly two or three hundred youths, that ſo by their diligence and care over them, together with the help of other miniſters, they may be brought to an excellent diſcipline; by which they may afterwards prove to be men of good manners and reaſonable learning. Imployment.

And it ſo falleth out many times, that the *Grand Seignor*, to give way to the other inferior and younger eunuchs, who expect that they ſhall ſucceed in order the aforeſaid offices, ſendeth forth ſome of the ancient, richeſt, and of the higheſt rank, in great imployments, as to be *Baſhaws* of *Cairo*, *Aleppo*, or of Their advancement.

ſome other cities, and provinces in *Aſia*, and ſometimes *Vizirs* of the bench. For the eunuchs generally prove ſubjects, though not of great courage, yet of the greateſt judgment and fidelity; their minds being ſet on buſineſs, rather than on pleaſure.

Fidelity.

And for that the eunuchs are more truſty, than any other ſervants of the *Seraglio*; the *Capee Agha* their patron doth commonly commit ſuch things, as the *Grand Seignor* would have kept for curioſity, unto their cuſtody: who for that end have cloſets made of purpoſe to lay up ſuch rarities as are preſented to the King; as great pieces of *Amber-Greeſe* ſent from the *Baſhaws* of the *Morea*, *Muske*, *Treacle*, *Mithidrate* of *Cairo*, *Terra ſigillata*, *Balſam* and other ſuch things of great value; cups alſo of Agat, Chryſtal, and Jaſper, *Turkeſſes*, and other precious ſtones: all which are ſo curiouſly kept, that it ſeemeth to be admirable. They likewiſe lay up his *Indian* preſents of *Zeva*, and *Civett*; of all which things

things his Majeſty and his *Sultanas* make daily uſe.

Hard by the eunuchs lodgings in the *Seraglio*, there is a very large place, in which are kept all ſuch goods as fall to the King, as well by them which are put to death, as by thoſe which die of natural diſeaſes; of which the King is maſter. Now the goods being brought into the ſaid place by the chief *Defterdar*, who receives them from the * *Beit il mawlgee*, and is to bring them thither, the *Grand Seignor* in preſence of his chief ſervants, having ſeen and well viewed all, maketh choice of what he thinks fit to reſerve, and to give away. The reſt is cried in the *Seraglio*, to the end, that if any one there have a will to buy, he may have a good penny worth, and the remainder of that is at laſt carried into the publick † *Beziſten*, where each parcel is cried up and down, the cryer ſtill naming the moſt that hath been already offered, and is at length ſold to him that bids moſt; nor may any, that offers a price, go from his word, at leaſt if he be able to perform and

Goods of the deceaſed.

* An officer which ſeizeth the eſtates of the dead, for the King.

† The *Berſtenz* † A large four ſquare building, where the beſt and richeſt wares are bought and ſold.

ASHMOLEAN OXFORD MUSEUM

or ſixty aſpars a day, and two veſts of ſilk yearly, with linnen and other neceſſaries, ſufficient for their uſe, beſides divers gifts and gratuities, which they receive from women ſtrangers, at ſuch times as they let them in to the King's women, and eſpecially from the *Jews* women, who are daily converſant with them. The reaſon why their penſion is ſo great, in compariſon of others, is, that they can never be ſent abroad in any imployment, thereby to enrich themſelves as the other can; but muſt for ever ſtay, and ſerve in the *Seraglio.*

Their Names. They are named by the names of flowers, as *Hiacynth*, *Narciſſus*, *Roſe*, *Gillyflower*, and the like. For that, ſerving the women, and being always near about them, their names may be anſwerable to their virginity, ſweet and undefiled.

Negro girls. The Black-moor girls, are no ſooner brought into the *Seraglio* after their arrival at *Conſtantinople* (for From whence they come. they come by ſhip from *Cairo*, and thereabouts) but they are carried to the womens lodgings; where they Education. are brought up, and made fit for all ſervices:

CHAP. VIII.

Of the Black Eunuchs, *and* Black-moor *girls, and women; of the Phyſicians, and of the King's children.*

NOW as concerning the black eunuchs, and Black-moor wenches which ſerve the *Sultanas*, and the reſt of the King's women; it is to be noted, that the black eunuchs, whilſt they are boys, are for the moſt part kept and taught among the other youths of the *Seraglio*, as the white ones are, until they be come to age, and made fit for ſervice; being taken from thence, they are appointed for the women, and ſet to ſerve, and wait with others at the *Sultanas* gate, all under command of the *Kuzlar Agha*, who is their patron, as the *Capee Agha* is maſter of the white ones, being allowed a penſion of fifty

Black eunuchs.

Their education.

Kuzlar Agha.

Their Penſion.

the *Seraglio*, or to ſpeak with any of their friends at the gate: but otherwiſe they may not dare to go forth of the *Seraglio* from the *Kuzlar Agha*, without expreſs licence from the *Sultana* Queen.

Imployment.

They like wiſe are to go to and fro, and to do all other buſineſſes for the *Sultanas* in the womens lodgings: which the white eunuchs cannot perform. For they are not permitted to come there; nor any man that is white, but the King only, may ſee and come amongſt the women; inſomuch, as when ſome one of them being fallen ſick, it is required that the *Hekim Baſhaw*, who is the King's phyſician, ſhould come thither; they muſt neceſſarily firſt have leave of the King for his entrance, and being admitted to enter by the *Sultanas* door, he ſeeth none but the black eunuchs, all the other women being retired into ſome withdrawing rooms, who bring him into the ſick woman's chamber; and ſhe, being cloſely covered from head to foot with quilts and blankets, holdeth out her arm only, ſo as the the doctor may touch her pulſe; who

No white man may come amongſt the women.

The phyſicians viſiting the ſick women.

who, when he hath given order what ſhall be done, both for her diet and medicine, goes his way immediately, by the ſame way that he came.

But if ſhe, which is ſick, be the Queen or one of the *Sultanas*, with whom the *Grand Seignor* hath lain, then her arm and hand, which ſhe holdeth out of the bed for the phyſician to feel her pulſe, is covered with a fine piece of white ſilk or *Taffata* ſarcenet, for her fleſh may not be ſeen nor touched bare; neither may the doctor ſay any thing in her hearing, but, being gone out of the chamber, preſcribeth what medicine he thinks fit: which for the moſt part, according to the knowledge and common cuſtom of the *Turks*, is but only ſome kind of looſening and refreſhing * *Sherbit*, for they ſeldom uſe any other phyſick; nor do I hold their skill ſufficient to prepare medicines for every malady. Strange niceneſs. * Potion, or drink, or ſyrup. Phyſick mean.

But in caſe the party deceaſed ſhould have need of a Chirugeon; ſhe then muſt do as ſhe may, and ſuffer without any ſcruple. For there is no remedy to conceal her skin

skin and fleſh from him. And as for the other women, which are not *Sultanas*, or at leaſt which are not well beloved of the *Grand Seignor*, either for their perſon, or for ſome peculiar and extraordinary virtues: they, needing a chirurgeon, are ſent into the old *Seraglio* to be cured, where they ſhall not want whatſoever may be thought convenient and uſeful, for reſtoring them to their former eſtate.

Curing in the old *Seraglio*.

The King's ſons, which are born unto him by his Queen, are nurſed, and brought up together by themſelves by choice nurſes, which are found abroad without the *Seraglio*. But if his Majeſty have ſons alſo by other *Sultanas* (as commonly every *Grand Seignor* hath) then thoſe are brought up a-part, and not with the Queen's; ſo that every mother careth for her own children, and that with great envy and jealouſy: yet they may play together, till they come to be of ſix or ſeven years of age; being much made of, ſumptuouſly maintained, and appareled all alike at the King's charge.

The King's ſons by the Queen.

Mother's care.

They

They live among the women till they come to be of nine or ten years of age; and, about fourteen, they are circumciſed with great pomp and ſolemnities throughout the whole city, eſpecially the eldeſt ſon. For the circumciſion of the *Turks* children are like to the Chriſtian weddings; there being uſed at them great feaſting, banqueting, muſick, and bringing of preſents. Circumciſion ſolemnity.

From five years of age until ten, during which time they live amongſt the women, they have their *Hojah*, that is, that ſchool-maſter, appointed them by the King to teach them to write, and read; and to inſtruct them in good manners, that they may behave themſelves decently before the King their father; which *Hojah* comes once a day into the womens *Seraglio*, and is brought into a chamber by the black eunuchs, without ever ſeeing the King's women at all, whither the children come accompained with two or three old Black-moor women ſlaves; and there they are taught for ſo many hours together, as their tutor is permitted *Hojah*, or ſchool-maſter.

mitted to ſtay, and then he departeth.

The King's daughters.

As for the daughters, they are but ſlightly looked after; nor is the King ſo tender and careful over them. For as they are not ſuſpected at all, for any thing that may concern the ſtate in future times; ſo likewiſe are they not much reſpected: yet they are well provided for by the *Grand Seignor* their father, in caſe they live to be fit for huſbands.

* The word ſignifieth a King's ſon in the *Perſian* tongue.

After the * *Shawh-zawdeh*, the next heir to the crown, is circumciſed; if his father think it unfit to keep him any longer with him at home in the *Seraglio*, he provides all things fitting for to ſend him abroad; that he may ſee the world, and learn experience, the better to enable him for to govern the empire after his father's deceaſe; ſending along with him one of his principal and truſty eunuchs, for to be his guide and overſeer in all his actions; beſides many ſervants to attend upon him: all which he chooſeth out of his own *Seraglio*. He allows him likewiſe ſufficient means

The Prince ſent abroad.

An eunuch his overſeer.

to

to maintain him like a prince, as he doth alſo the reſt of his ſons, if he have a purpoſe to ſend any of them abroad. And ſo all things being well ordered and prepared for him; having taken his leave of his father and mother (who preſent him with many gifts, as alſo the *Sultanas*, and all the *Baſhaws*, and great men of the *Port* do) he departs for *Magneſia*, a city in *Aſia*, there to reſide in the government of that province; in which he hath not the ſupreme authority, but governs only as his father's deputy. And ſhould he paſs the limits of his commiſſion, he would quickly fall into diſgrace, and ſuſpicion of rebellion; as heretofore it hath happened unto divers of his predeceſſors, ſent out in the ſame manner. Wherefore the eunuch, which is appointed to be his helper and overſeer, is bound to give continual advice to the *Grand Seignor* of his deportment, and to the *Vizirs*, of all occurrences whatſoever, according to the charge given him; and likewiſe to receive from *Conſtantinople* ſuch orders and commandments, as are

Magneſia, his reſidence.

His commiſſion.

to

to be obeyed in thoſe parts, where the Prince reſideth. So that all things, in a manner, are ſwayed by the diſcretion of the eunuch.

CHAP. IX.

Of the cooks, kitchens; diet of the King, Queen, and others; of the manner of ſervice; of their skullery, and proviſion of the Seraglio.

Victuals and Cooks.

THE victuals in the *Seraglio*, for the moſt part, are dreſſed by *Agiamoglans* brought up to cookery, which are called † *Aſchees*, and are known from other *Agiamoglans* by their white caps, yet in the form of a ſugar loaf as well as the others are. Howbeit there are belonging to the kitchens, that are therein, more than two hundred under-cooks, and skullions; beſides their principal officers, as ſewers, caters, and ſuch like: all which are

† Cooks.

are carefully to look to their ſeveral kitchens, and not any one to truſt another with his buſineſs.

The King's kitchen begins to work ordinarily before break of day. For his Highneſs riſing betimes, there muſt be always ſomewhat ready for him; becauſe commonly he eateth three or four times a day. He dines uſually at ten of the clock in the forenoon, and ſups about ſix at night, as well in the ſummer as in the winter. The King's kitchen, and meals.

When he hath a will to eat, he tells the *Capee Agha* of it, who forthwith ſends an eunuch to give notice of the ſame to the chief *Sewer*, and he, having cauſed the meat to be diſhed up, brings it in diſh by diſh to the King's table; and ſo his Majeſty ſits down after the common *Turkiſh* faſhion, with his legs a-croſs, having a very rich wrought towel caſt before him upon his knees to ſave his clothes, and another hanging upon his left arm, which he uſeth for his napkin to wipe his mouth and fingers. He is not carved unto, as other Princes are, but helps himſelf; having before him His ſitting at meat. Not carved.

him upon a piece of *Bulgar* leather (which is inſtead of a table cloth) fine white bread, of three or four ſorts, well reliſhed, and always very new, as indeed all *Turks* love their bread beſt, when it is warm, newly come forth of the oven. He neither uſeth knife nor fork, but only a wooden ſpoon, of which there are two always laid before him, the one ſerving him to eat his pottage, and the other to ſup up certain delicate ſyrrups, made of divers fruits, compounded with the juice of lemmons, and ſugar, to quench his thirſt. He taſteth of his diſhes one by one, and as he hath done with them they are taken off. His meat is ſo tender, and ſo delicately dreſſed, that, as I ſaid before, he needs no knife, but pulls the fleſh from the bones very eaſily with his fingers. He uſeth no ſalt at his table, neither hath he any *Antepaſt*; but immediately falls aboard the fleſh, and, having well fed, cloſeth up his ſtomach with a † *Bocklava*, or ſome ſuch thing. And ſo his dinner, or ſupper, being ended, he waſheth his hands, in

His Bread.

No knife nor fork.

Two ſpoons.

Syrups.

No ſalt, nor antepaſt.

† A Tart.

in a baſon of gold, with the ewer all ſet with precious ſtones. Baſon and Ewer.

His Majeſty's ordinary diet (as I have been told by ſome of the *Aſchees*) is, half a ſcore roaſted pigeons in a diſh; two or three geeſe in a diſh; lamb, hens, chickens, mutton, and ſometimes wild fowl, but very ſeldom: and look what he hath roaſted for him, ſo he hath the ſame quantity boiled, almoſt of every thing, there being very good ſauce for every diſh, and other ingredients very pleaſing to the palate. He hath likewiſe broths of all ſorts; and divers porcelane diſhes full of preſerves and ſyrrups; and ſome tarts, and * *Burecks* after their faſhion made of fleſh covered with paſte: and having made an end of eating, he drinks one draught of † *Sherbet* (ſeldom or never drinking above once at a meal) which is brought unto him by one of his *Agbas* in a deep porcelane diſh covered, ſtanding upon a flat under diſh of the ſame metall. His Diet.

* Little pies.

† It is an *Arabian* word, and ſignifieth drink; of theſe *Sherbets* here are very many ſorts.

Drinking once.

All

No words at meals, according to this saying, *evel tazawm auden Kelawm*: first victuals and then words. Mutes and jesters.

All the while that he is at table, he very seldom, or never, speaks to any man; albeit there stand before him many *Mutes*, and *Buffons* to make him merry, playing tricks, and sporting one with another *alla Muteſcha*, which the King understands very well. For by signs their meaning is easily conceived: and if peradventure he should vouchsafe to speak a word or two, it is to grace some one of his *Aghas* standing by him, whom he highly favoureth; throwing unto him a loaf of bread from his own table: and this is held for a singular grace, and especial favour; and he distributing part of it amongst his companions, they likewise accept of it at the second hand, and account it as a great honour done unto them, in regard it came from their Lord and King.

His favour.

Dishes, and Covers of gold.

The dishes for his Highness's table are all of gold, and so likewise are their covers; they are in the custody of the *Keekergee Bashow*, who attends at the kitchen at dinner, and supper time: and so are all the yellow porcelane dishes, which are very costly, and scarcely to be had for money,

Yellow porcelane, for the *Ramazan*, or lent.

money, in which the *Grand Seignor* eats in the *Ramazan* time, which is their lent, and laſteth a whole moon, and the month itſelf is ſo called. Now at that time, the *Turks* never eat in the day, but only in the night; not making any difference at all, in meats; excepting ſwines fleſh and things ſtrangled, of which they are forbidden by their law to eat at any time.

The King ſeldom eats fiſh, unleſs it be when he is abroad, at ſome garden-houſe, by the ſea-ſide, with his women; where he may ſit, and ſee it taken himſelf.

The meat which remains of that which was at the *Grand Seignor*'s table is immediately carried to the † *Aghas* table, who wait upon him; ſo that they, what with that, and their own diet together, are exceeding well provided. Whilſt the *Aghas* are eating, the King paſſeth away the time with his *Mutes* and *Buffons*, not ſpeaking (as I ſaid) at all with his tongue, but only by ſigns. And now and then he kicks, and buffeteth them in ſport; but forthwith makes them amends, by

The remainder of his meat.

† Gentlemen waiters.

His ſporting with his *Buffons*.

giving them money. For which purpoſe his pockets are always furniſhed, ſo that they are well contented with that paſtime.

The *Capee Agha's* diet.

In the mean time alſo, the *Capee Agha* eats, in a room a-part, ſuch meat as is prepared for him in his kitchen, being far inferior to the King's diet. And with him do eat the *Hazinehdar Baſhaw*, the *Saraj Aghaſee*, and ſometimes ſome of the King's phyſicians, whom he calls in for to bear him company; and ſuch other eunuchs, which are keepers of the *Seraglios* abroad, as do come to viſit him. And the remainder of his diet, with a freſh ſupply from the kitchins, ſerves * *di man' in mano*, all the other white eunuchs.

* From one to another, or from hand to hand.

Diet for the *Oda* youths.

In this *interim*, likewiſe, is meat ſent to all the other *Odas*, for the youths there; which is two loaves a piece a day, and a little boiled mutton, with pottage of rice, mingled with butter and honey; which indeed conſiſts more of broth, than ſubſtance; it being but thin of rice, and ſo little fleſh in it, that it is well

well, if it give but a taſte thereof, when they ſop their bread in the diſh.

On the other ſide, is meat carried in by black eunuchs to the Queen, to the *Sultanas*, and to all the other women; wherein is obſerved the ſame order, as is aforeſaid, with the King: inſomuch as, in the ſpace of an hour and half, or two hours at the moſt, all is diſpatched. Queen and *Sultanas* diet.

The Queen's ſervice is in copper diſhes, tinned over; but kept very bright, and clean, and ſome alſo of white porcelane: however it is to be underſtood, that ſhe herſelf may be ſerved as ſhe pleaſeth; and ſo queſtionleſs may all the *Sultanas*, although their ordinary allowance be no other than copper. For oftentimes the King is amongſt them a whole day together, eating, ſporting, and ſleeping, of which there is no notice taken, nor may any one look into his actions: where, amongſt themſelves, they make him delicate and ſumptuous banquets, over and above the ordinary meals of dinner and ſupper, of ſweet meats, and fruits of all Queen's ſervice in copper. The King with his women.

ſorts, having daily an abundance preſented unto them.

Snow mixed with ſherbet.

They drink their ſherbet in the ſummer time, mingled with ſnow; of which there is a great quantity preſerved yearly, for to ſerve the *Seraglio*; but at a very dear rate. For the ſnow doth ſtand the *Port* in more than twenty thouſand chicquins a year, in gifts, and ceremonies, and other expences at the fetching it in from the hills, and in putting it under ground in houſes made of purpoſe for that uſe.

Eight thouſand pound *ſterl.*

Comfets, and Cheeſe, not uſed.

They do not ordinarily uſe comfets, nor cheeſe. For the *Turks* do hardly know how to make them, eſpecially cheeſe, which if they make, yet it never proves good. So that the *Sultanas*, all the *Baſhaws*, and other great perſonages, eat none but Parmeſan, of which the * *Bailo* of *Venice* doth always furniſh them, and that very plentifully: for they love it well, and eat heartily of it, when they go abroad upon pleaſure, to take the air.

* Leiger Ambaſſador.

Order.

For the ſundry proviſions of the ſaid *Seraglio*, all things are prepared

pared in great abundance; and every particular proviſion is aſſigned to particular perſons, to take care thereof; ſo that there is never any want at all of things neceſſary. For the officers are ſure, upon the leaſt complaint made againſt them, to loſe their places. Wherefore, as it behoves them, they are very carefull to ſee, not only that there be a ſufficiency, but alſo that it be very good.

The firſt, and beſt ſort of bread, which indeed is very white and ſavoury, is for the *Grand Seignor*, the *Sultanas*, the *Baſhaws*, and other great ones. The ſecond ſort, for them of middle rank. And the third and laſt ſort, which is very black and coarſe, is for the *Agiamoglans*, and others of baſe quality. Bread of three ſorts.

The meal whereof the beſt ſort of bread is made, for the *Grand Seignor*, and the *Sultanas*, is brought from *Burſia*, made of the wheat of that province of *Bithynia*, and growing in the King's own ground. The yearly proviſion thereof is, about ſeven or eight thouſand keloes, which makes almoſt ſo many buſhels Meal from *Burſia*.

Quantity. ſhels of our meaſure in *London*: the which wheat makes the beſt flour that comes to *Conſtantinople*; for that is it alſo ground at *Burſia*, and thoſe mills are far better than any, that are near * *Stamboll*.

* *Conſtantinople.*

Volo-wheat. Now for the other wheat, which they ſpend, it comes, for the moſt part, from *Volo* in *Græcia* by ſhipping, where there is a great portion of land belonging to the crown. And a great part of the corn, there growing, is ſpent yearly in the King's armada, made into bisket at *Negroponte*: ſome alſo is ſold to the *Raguſeans*, and others, who come with their ſhipping to lade it thence; but they muſt bring their authority with them from *Conſtantinople*, underwritten with the chief *Vizirs's* own hand. And there is likewiſe brought yearly to *Stamboll*, of the aforeſaid wheat of *Volo*,

Quantity. thirty five, or forty thouſand *Keeloes*; the which is laid up in † magazines, and is afterwards ground, and moſt of it ſpent in the *Seraglio*; that which remains, they ſell away into the city.

† Store houſes.

Nor

Nor is it any wonder, that the *Seraglio* conſumes ſo much bread corn. For, beſides the ordinary ſervants, as aforeſaid, all the *Sultanas*, and great perſonages, with divers others, have their daily and due allowance of bread, from the *Keeler*, that is, the *Pantry*, or from his Majeſty's bake-houſe; *ſcilicet*, every *Sultana* twenty loaves; every *Baſhaw* ten; to the *Muftee* eight; and ſo to divers others a ſeveral proportion, even to one loaf a man: all which is ordered, and done by the commandment, and diſcretion of the chief *Vizir*; their ſeveral allowances being ſet down in the chief *Pantlers* books, or elſe in his, who is the overſeer of the bake-houſes; every loaf being as big as three of our penny loaves in *London*, but very light, and ſpungy, and eaſy of digeſtion. Pantry allowance.

The rice, and lentiles, and all other ſorts of pulſe, of which there is a great quantity ſpent, are brought yearly from *Alexandria* in the Galeons, which make yearly two voyages, and bring out of *Egypt*, not only the ſaid pulſe, but alſo all Rice, and pulſe from *Alexandria*.

ſorts

Spice, ſugar, and ſweet-meats.

ſorts of ſpice, and ſugar, and a great quantity of preſerves, and pickled meats, which the *Turks* much delight in. And as for ſugar, there is ſpent an unſpeakable deal of it in the making of *Sherbets* and † *Boclavas*, which not only the *Seraglio* uſeth, but are alſo ordinary preſents, from one *Baſhaw* to another, and from one friend to another; inſomuch that it is a thing to be admired, that ſo great a quantity ſhould ſo ſuddenly be conſumed.

† Tarts.

Little ſpice conſumed.

True it is, that there is but little ſpice ſpent in the *Seraglio*, nor indeed any great ſtore among the *Turks*, pepper only excepted. For ſeeing wine is not an ordinary drink amongſt them, they therefore avoid the eating of ſuch things, as do provoke a deſire thereunto. Howſoever in the ſtore-houſes of the *Port*, there is proviſion of all ſorts of ſpices, and drugs, whatſoever occaſion ſhould happen, that might require the uſe of them.

Egyptian fruits.

There likewiſe come from *Egypt*, great ſtores of dates, prunes, and other dried plums, of divers ſorts, which the cooks uſe in their dreſſing

ſing of meat, as well for roaſt, as boiled in broths: and indeed, they make very delicate diſhes of them.

The honey (of which the *Port* ſpends a great quantity, both in their broths, boiled meats, * pancakes, † frittars, and coarſe ſherbets, for the common ſort of people) is brought in great earthen jars, from *Walachia*, from *Tranſylvania*, and *Moldavia*, as well that which is preſented by the Princes of thoſe Provinces to the *Grand Seignor*, as that which comes for particular mens accounts. Yet that honey, which is uſed in the King's own kitchen, come from ‡ *Cio*, and is far better and purer than the other. Honey whence.

* They call them *yoofka*, fig. flat.

† The *Turks* call them *lokma*, which ſignifieth, a bit, or mouthful.

‡ The *Turks* call it, *ſakuz Ada*; that is the maſtick iſland, becauſe the maſtick growa there.

The oil (of which there is an unſpeakable quantity ſpent, by reaſon of the many uſes they put it unto, as well in their meats, as for their lamps, and the like) is brought from *Modon*, and *Coron* in *Græcia*; the || *Sanjack Beg* of that province being bound to ſee the *Port* ſufficiently furniſhed therewith, from time to time. Howbeit that which is ſpent in the King's own Oil whence.

|| Governor, next in degree to a *Beglerbegh*.

own kitchen, is brought from *Candie* and *Zant*, it being ſweeter, clearer, and in every reſpect better, than that of the *Morea*.

Butter from *Bogdania*, &c.

The butter (of which alſo there is ſpent a very great quantity, in that it is uſed almoſt in all their meats, eſpecially in that ordinary diſh which they call * *Pillavo*) comes by ſhipping out of the *Black ſea*, from *Bogdania*, and from *Caffa*, being put into great ox hides, and buffalo hides, with the hairy ſides inward; and ſo is laid up in † magazines, for the yearly proviſions of the King's court: but commonly they have ſo much of it, that they are fain to ſell part into the city; as they likewiſe do by the oil, honey, *&c.* which are *Beggleek* (that is, for the *Grand Seignor*'s own account) when they have more than they think they ſhall have occaſion to ſpend, and make a wonderful great benefit of it; oftentimes enforcing the ſhop-keepers to take it at what price they pleaſe to rate it at, although it be ill conditioned, and ready to ſtink.

* Boil'd rice.

† Store-houſes.

Quantity.

The

The *Turks* are no whit acquainted with freſh butter, there being little, or none at all, made about *Conſtantinople*; neither do they eat much milk, except it be made ſowre, which they call *Yoghurd*. For that, being ſo turned ſowre, it doth quench the thirſt: and of that, both they, and the Chriſtians do eat a great quantity in the ſummer time. They eat alſo ſome ſtore of *Kaymack*, that is, clouted, or clodded cream; but that is a diſh for the better ſort only, it being a meat of two high a price for the vulgar.

No freſh butter.

Little milk eaten.

Yoghurd, ſowre milk.

Kaymack.

Now, as for fleſh; every year in the autumn, winter drawing nigh, the *Baſhaw* cauſeth the proviſion of * *Baſturma* to be made for the King's kitchens; which muſt be of cows great with calf. For then (ſay they) the fleſh is moſt tender and ſavoury. They uſe it in the ſame manner, as chriſtians uſe ſwines fleſh. For they make puddings and ſauſages of it, and the reſt they boil and dreſs after other faſhions.

Proviſion of fleſh.

* So called becauſe the fleſh is preſſed and made flat.

How they uſe it.

This

Hanged up and dried.

This ſort of dried fleſh (after that it is ſufficiently dried and hardened, with hanging a month, or better, in ſome upper room, and little or no ſalt uſed about it, but preſſed very flat) will laſt the whole year following, and eat very ſavourly. And it is in ſuch great uſe amongſt the *Turks*, and ſo well liked of, that there is ſcarce any maſter of a family, if he be of ability, but doth yearly againſt winter make his proviſion of it; and it is held a very thrifty and ſparing courſe. For that then freſh meat would be very dear. But they do not all make their *Baſturma* of cows great with calf, (that is for the *Seraglia*) for there are many which love the other better, which is made of oxen and bullocks; and they can buy it far cheaper.

400 Cows great with calf ſpent every year.

The *Baſhaw*, as I ſaid, hath the care and overſight of what is prepared for the King's kitchens, and there are commonly ſpent four hundred cows every year for the ſaid proviſion of *Baſturma*: there is alſo freſh beef ſpent in the *Seraglio*:

raglio; but the quantity is uncertain.

The other flesh, which is daily provided, and spent in the kitchens of the *Seraglio*, as I was told by one of the * *Aschees*, is as followeth; sheep two hundred; lambs, or kids when they are in season, one hundred; calves ten; geese fifty; hens two hundred; chickens one hundred; pigeons an hundred pair. Other flesh. * Cooks.

There is very little store of fish spent in the *Seraglio*, either shell-fish, or other; yet sometimes the *Aghas* for dainties will eat some. The seas thereabout do exceedingly abound with divers kinds, and they may easily take as many as they please; by reason of which the Christians are plentifully served with fish in the markets, and at reasonable prices, and the common and poorer sort of *Turks* do bear them company in that diet. Fish.

The *Grand Seignor*, nor any of his women, or servants in the *Seraglio*, cannot want for fruit, there being at time of year so many presents, of all sorts of fruits, brought thither, Fruits.

thither, beſides what comes from the King's own gardens (which are many, and near the city) every morning in great abundance, and excellent good; eſpecially figs, grapes, peaches, and *Caoons* †; the gardeners ſelling the remainder at a * place in *Conſtantinople*, where only the King's fruit is ſold, and bring the money weekly to the *Buſtangee Baſhaw*, who afterwards gives it to his Majeſty; and it is called *jebbe akcheſee*, that is, the King's pocket-money. For he gives it away by handfuls, as he ſees occaſion, to his *Mutes* and *Buffones*, at ſuch times as they make him ſport. Now this fruit being ſold, the buyers of it do commonly ſend it to ſome great perſonages; for it is extraordinary good, and ſo artificially piled up in baskets, by the ‡ *Buſtangees*, that, for the beauty of it, it oftentimes proves more acceptable than a gift of greater price.

† Melons.

* Which is called *yemiſh bazar*, that is, the fruit-market.

The King's pocket money.

‡ *Agiamoglans* gardeners.

The furniture of the kitchens in the *Seraglio*, as kettles, caldrons, pots, and skillets, *&c.* are almoſt all of braſs; and they are ſo neatly kept, and of ſuch a largeneſs, that there

The skullery.

there cannot be a braver ſight of that nature; inſomuch that one would rather think, that they ſtood there to be ſold, than that they ſhould be ſo often uſed as they are. And as for the diſhes, they are all of copper, tinned over; but ſo often new furbiſhed, ſcowered, and trimmed, that (they being daily uſed) it is wonderful to behold their continual brightneſs. And of theſe diſhes they have a great number: but the *Grand Seignor* ſuſtains great loſs by them. For, there being ſuch a multitude of people ſerved daily from the kitchens, both within and without, eſpecially upon the four *Divan* days, there are ſo many of them ſtolen, that the *Defterdars*, weighing the loſs and charge of the ſaid diſhes, have oftentimes been almoſt reſolved, to make them all of ſilver, and ſo to conſign them to the cuſtody of the *Sewers*, and *Butlers*, who ſhould from time to time give account of them, and look the better to them, and not to ſuffer every ordinary fellow to carry away his meat in them, as they do in the other cop-

Neatneſs.

Loſs by pilfering.

per ones: but finding it a thing ſo coſtly, not any *Defterdar*, as yet, hath performed it, nor adventured to begin, only have diſcourſed of it, and approved of that courſe, as a remedy, to prevent their uſual pilfering.

Wood, and fewel.

The wood, which is ſpent in the aforeſaid kitchens, and in all the *Seraglio*, is an infinite number of weights (for at *Conſtantinople* the wood is all bought and ſold by weight, and ſo is almoſt every thing elſe) there being for the account of the *Seraglio*, which they call *Begleek*, about thirty great † *Caramuſalls*, which do nothing elſe at one time of the year, but ſail into the *Black-ſea*, there to lade at the King's woods. It is a buſineſs, which coſteth the *Grand Seignor*, but little or nothing, in reſpect of the worth of it. For they have it for the cutting down, and as for the bringing, and unloading of it, it requires little or no charge at all. For the ſaid *Caramuſalls* are bound to make ſo many returns in a year for the King, but receive no freight; and the maſters are to ſee it unladen at the

† Ships.

the appointed wharf, at their own coſts, and charges; receiving only a diſcharge in the end from the *Stanboll Agha* for that year's ſervice, but no recompence at all. Afterwards they may work for themſelves, and go whither they pleaſe, till their turns come again for the year following.

‡‡ An officer of good account, which taketh care for the city's proviſion: The word ſignifieth the Maſter of *Stanboll.*

CHAP X.

Of apparel, bedding, ſickneſs, hoſpitals, inheritance, King's expences, recreations, his going abroad, receiving of petitions; of the King's ſtables, and Byram *ſolemnities.*

THE *Grand Seignor's* apparel is nothing different in faſhion from other mens, ſaving in the length of his veſts, and the richneſs thereof; nor are his ſhoes plated with iron at the heels, as other *Turks* wear them, but are raced, and painted

The faſhion of the King's apparel.

like childrens-ſhoes, with knots and flowers, or elſe they are all white. The faſhion of his turbant is all one with that of the *Baſhaws*; but he wears plumes and brooches in his, and ſo doth not any *Baſhaw* in the *Port*, except the *Vizir Azem*, and that is upon the day when he makes a ſolemn ſhew at his departure for the wars.

His bedding. And as for his lodging; he ſleeps upon mattereſſes of velvet, and cloth of gold: in the ſummer in ſheets of † *Shaſh* embroidered with ſilk, ſewn to the quilts, and in the winter betwixt coverlets of *Luſernes*, or of *Sabells*, wearing all night a ‡ *Gheje-lick*, or little *Shaſh* on his head.

† A *Shaſh* is the whole piece (be it long or ſhort) of fine linnen, of which the *Turbant* is made; but the name of the ſtuff (as we call ours lawn, cambrick, holland, *&c.* is *Telbent*, whence we falſly call that which a *Turk* wears a Turbant, uſing the name of the ſtuff for the thing made up; whereas the true word is *Saruck*, and the *Turks* themſelves ſo call it: it comes from *Sarnach*, which ſignifieth to wind about, or to ſwathe.

‡ Night-attire, for the head.

Pages watch. And when he lies alone in his own lodgings, he is always watched by the pages of his chamber, by two and two at a time, changing their watch every three hours; one of them ſtanding at the chamber door,

door, and the other by the bed-ſide to cover him, in caſe the cloths ſhould ſlide off, and to be near hand if his Majeſty ſhould want any thing, or be ill at eaſe. In the ſame chamber alſo where he lies, there are always two old women, that wait with burning torches in their hands, which they may not put out, till ſuch time as the King is riſen out of his bed. Now the uſe of theſe lights is, for his Majeſty to ſay over his beads, and for to pray by, in caſe his devotion be ſtirred up thereto, at midnight, or at *Temcheet namaz*, which is about two hours before day.

Two torch-women.

The habit of his women is much like to that of the men. For they wear † *Chackſirs*, and buſkins too, and the meaner ſort of them, have their ſhoes ſhod with iron at the heels.

Womens habit.

† Breeches, from the waiſt down to the heel.

They likewiſe ſleep as the men do, in their linnen breeches, and quilted waiſtcoats; having thin and light ones for the ſummer, and more thick and warm ones for the winter.

No cloſe-ſtools, among the men; but the women ever, when they go to the *Haman* or *Bagno*, carry them along with them.

The *Turks* never have any cloſe-ſtools, or ſuch like utenſils in their chambers; but having neceſſity they riſe, and go to the privies, made in places a-part, where there do always ſtand pots full of water ready, that they may waſh when they have done, for they uſe no paper in that ſervice, as others do; holding it not only undecent, but an extraordinary abſurdity, for a *Muſſulman* to put paper to ſo baſe a uſe; ſeeing that both the name of God, and the *Mahometan* law, are written upon the like. They all put off their turbants when they go about that buſineſs; and a *Janizary* may by no means piſs with his * *Uskuf* upon his head, but having done, he muſt kiſs it, and ſo put it on again. For they hold the covering of their heads to be as honourable in a manner, as the head itſelf.

No paper uſed at the privy.

* They alſo call it *Kecheb* that is, a *Janizary*'s cap; but *Uſkaf* properly ſignifieth a hood.

Stipends, how paid.

The ſeveral ſtipends which the *Grand Seignor* alloweth to thoſe of the *Seraglio*, of what degree or condition ſoever the perſons be, are paid out of the outmoſt *Hazineh*; and the chief *Defterdar*, who hath

a

a book as well of the names of the ſtipendiaries, as of their ſtipends, is bound to ſend, once in three months, Every three months. to all the *Odas*, in ſeveral bags ſo much money as their pay comes to, and there they ſhare it amongſt them. The like he doth alſo by the women, and the *Agiamoglans*, paying them in good money. And againſt the *Byram* which is their *Carneval*, he muſt ſend them their veſts, their linnen, and ſuch like neceſſaries; of all which he never fails them. For if he ſhould diſappoint them, eſpecially at that time, they would ſo complain againſt the ſaid *Defterdar*, that it would be his utter overthrow; or at the leaſt he ſhould be ſure to loſe his place; ſuch is the *Grand Seignor*'s care for his ſervants, that they may not want whatſoever is befitting each particular perſon in his ſeveral degree.

When any one dies in the *Seraglio*, whether he be *Itchoglan*, or *Agiamoglan*, his chamber-fellows are made his heirs, and that which he leaves behind him is equally divided amongſt them; and ſo is it *Seraglio* heirs.

Exception.

with the young wenches which never lay with the King: but if any great eunuch die, all comes to the *Grand Seignor.* For they are always very rich, by reaſon of the manifold gifts and gratuities, which daily come to their hands: and if any *Eunuch* of the *Seraglios* abroad, or in other places of government, ſhould die; then two thirds only of his eſtate fall to the King by *Canon*, the other third part being to be diſpoſed of, according to the *Teſtator*'s will. This alſo is only by permiſſion, when the King gives way unto it, and will not, out of his ſupream authority and power, take all to himſelf, as he uſeth to do by all great rich ones; the King's perſon being held the principal and moſt lawful heir of all, they eſteeming themſelves as ſlaves, which have received their livelihood, goods, eſtates, and all that they have enjoyed, meerly from his greatneſs and bounty; ſo that they may not grudge to render back again at their deaths, or whenſoever he ſhall require it, all that they do poſſeſs. And to this end, there

there is an officer called the *Beyt il mawlgee*; who ſo ſoon as any one dies, or is put to death, makes inquiſition after their eſtates, and ſo certifies the *Defterdar* thereof, leaving the performance to him, if it be of great import. But the *Beyt il mawlgee*, for his own private gain, doth oftentimes conceal, after ſearch made, a great part of the eſtate of the deceaſed; dividing the ſame privately betwixt the kindred and himſelf. *Beyt il mawlgee.* His ſubtlety.

When any ordinary perſon falls ſick in the *Seraglio*, he is immediately carried from his chamber in a cart which is covered with cloth, and drawn with hands, and is put into the aforeſaid *Hoſpital*, or *Lazaretta* belonging to the houſe only; where he is look'd unto after the *Turkiſh* faſhion, and kept ſo cloſely, that none may come to the ſpeech of him, except the phyſician, or apothecary, but with great difficulty; and, growing well again, he muſt be carried back, in the ſame manner, to his own chamber where he was at the firſt. Hoſpital.

The

The expences of the *Seraglio* are very great, as one may gather by what hath been already ſaid: but there are moreover divers other charges of great conſideration which the King is at, by reaſon of the *Sultana* Queen, and then of the chief *Vizirs*; the † *Serdars* of his ſeveral forces both by ſea and land, and the great *Defterdars*, and others; to all which he gives gratuities, according as he ſeeth fit upon ſundry occaſions, as well at the times of their going forth, as at their returns from their employments abroad, and upon good ſervices done at home: the which gifts are veſts, ſome unlined, and ſome lined with very coſtly furs, ſwords, bows, * *Hanjars*, plumes, and brooches, girdles all ſet with rich ſtones, and many other things of great value; and again ſome but of low price, according to the quality and deſert of the parties, to whom his Majeſty is pleaſed to ſhew his liberality. Nay, the *Hazinehdar Baſhaw*, who hath the keeping of the cloth of gold and ſilver of *Burſia*, doth affirm that, in that one

The King's expences.

† Captains, or generals.

* Daggers.

one commodity, to make veſts of, there is ſpent yearly two hundred thouſand *Sultanas*; beſides what he diſburſeth for the buying of *Venetian* ſilks, and woollen clothes, of which the *Seraglio* conſumes a great quantity, they not wearing, for the moſt part, any other.

200000 *Sultanas*, about 80000 pounds *ſter.*

Neither doth this alone ſerve the turn. For beſides all this, the *Grand Seignor* gives away all that which is given him by ſtrangers; and a great part alſo of that which comes to him of the ſpoil of the dead, of which he is maſter, as hath been ſhewed before.

And ſurely, ſhould his Majeſty want theſe helps, he could not long continue his liberality, giving as he doth, to his women, to his *Baſhaws*, and to all ſuch as are at any time to kiſs his hand. Nevertheleſs, true it is, that the greateſt part of things of value, which he gives away, in time, come again to his hands. For his *Sultanas*, *Baſhaws*, eunuchs, or other rich men, dying, he immediately becomes maſter of all again, or, at leaſt, of the greateſt part of their eſtate: and

Ebbing and flowing from and to this Ocean.

and ſo of ſuch things there is a continual ebbing and flowing in the *Seraglio.*

The Queen's expences.

The Queen likewiſe gives much away. For as ſhe is preſented by many, ſo is it fit that ſhe ſhould in part make ſome compenſation; and to that end, ſhe hath an allowance of veſts, and other things in great abundance. Beſides, ſhe hath liberty to diſpoſe of many of thoſe, which have been worn by the King.

The *Vizir's* gifts.

The *Vizir Azem* is alſo a giver at the King's charge; as well whilſt he is in *Conſtantinople*, as when he is upon departure, as general of the *Grand Seignor's* army to the wars: and to that end, before he departeth, he hath brought unto him, from the *Hazinebdar Baſhaw*, a great number of veſts, and other things; that he may be provided, when he is in the field, with preſents, according to the *Turkiſh* cuſtom; which, in all buſineſſes, and upon every occaſion, is, to give and take.

The King, if he pleaſe, may at any time go abroad either by water,

or

or by land: when he goes by water he hath his *Kaik* of ſixteen, or eighteen banks, with a very ſumptuous and ſtately poop, covered over with crimſon velvet richly embroidered, under which he himſelf ſits, and none but he upon cuſhions of velvet, and cloth of gold; his *Aghas* ſtanding all on their feet, holding with one hand by the ſide of the *Kaik*, and only the *Buſtangee Baſhaw*, who ſteers the barge, may now and then ſit down, that he may handle the helm the better. Now the *Buſtangee Baſhaw*, by reaſon the King talks much with him in the *Kaik*, (at which time, leſt any one ſhould hear what they ſay, the *Mutes* fall howling like little dogs) may benefit, or prejudice whom he pleaſeth, the *Grand Seignor* being altogether ignorant of divers paſſages, and apt to believe any information, either with or againſt any ſubject whatſoever. His barge is rowed by *Agiamoglans*, which are brought up in that exerciſe; and indeed they manage the buſineſs very well, and nimbly, not ſitting at all when they row, but

King's Barge.

Mutes howling.

Their manner of rowing.

but as they fetch their ſtroke, they ſtep up upon the next bank before them, and ſo with the ſtroke fall backward flat on their backs upon the next bank behind them; much reſembling the manner of rowing in the gallies.

His going out by land.

When he goes forth by land, he always rides on horſe-back, and goes out, commonly, at the greateſt gate, eſpecially at ſuch times as he is to go to the *Moſchea*, which is upon the Friday, it being their ſabbath, and is accompanied into the city by all the *Baſhaws*, and other *Grandees* of the *Port*, beſides many of his own houſhold ſervants which go by his ſtirrup, and his *Aghas* riding after him; having divers *Solacks* alſo with their bows and arrows, which go before him for his guard. And as he rides along the ſtreets, he ſalutes the people with nodding his head towards them, who again ſalute him with loud ſhouts, and prayers of proſperity and happineſs; and for recompence, the King oftentimes puts his hand into his own pocket, and throws whole handfuls of money amongſt

Solacks, or Bow-men.

Gratulations, and gratifications.

amongſt them. Now they of the *Seraglio*, which go along by his ſtirrup, have charge to take all ſuch petitions, as are preferred to his Majeſty as he rides along either to, or from the *Moſchea:* and many poor men, who dare not preſume, by reaſon of their ragged apparel, to approach near unto ſo majeſtic a preſence, ſtand afar off with fire upon their heads, holding up their petitions in their hands; the which the *Grand Seignor* ſeeing, who never deſpiſeth, but rather encourageth the poor, ſends immediately to take the * *Arzes*; and being returned home into his *Seraglio*, reads them all, and then gives order for redreſs as he thinks fit. By reaſon of which complaints, the King oftentimes takes occaſion to execute the fury of his wrath and diſpleaſure, even upon the moſt eminent in place, before they are aware, without taking any courſe in law againſt them, only acquainting the *Muftee* with his deſign, who ſeldom or never doth oppoſe him, but cauſing a ſudden execution of what puniſhments he pleaſeth

Petitions preferred.

* *Arzes*, or Petitions.

pleaſeth upon them; either putting them to death, or at leaſt turning them out of their places. For as he ſtiles himſelf † *Awlem penawh*, ſo he would have the world to take notice, that ſuch, as lament unto him, ſhall be ſure to have redreſs and ſuccour from him; although his miniſters fail them, or abuſe them through their injuſtice. Which makes the *Baſhaws*, and other great officers, that they care not how ſeldom the *Grand Seignor* ſtirs abroad in publick, for fear leſt in that manner their unjuſt proceedings and bad juſtice ſhould come to his ear. And indeed they always live in great fear, through the multiplicity of buſineſs that paſſeth through their hands, and in danger of loſing their lives at a ſhort warning, as it hath been ever obſerved, that few *Vizirs* die in their beds, which makes them uſe this proverb; *that, he that is even the greateſt in office, is but a ſtatue of glaſs.* But, notwithſtanding their brittle eſtate, bribery hath ſo bewitch'd them, that, hap what will hap, he that will give moſt ſhall be

† The world's refuge.

Proverb.

be ſure to ſpeed at their hands. The *Grand Seignor*, for the uſe of his houſhold, hath in *Conſtantinople* at a place called * *Ahur capſée*, near unto the *Seraglio*, an exceeding large ſtable of a thouſand horſes, and upward: and the † *Imrohor Baſhaw*, which is maſter of the horſe, hath the charge of them, as of all his other horſes, mules, camels, and all his cattle whatſoever, and of all the King's hay and provender; having an under *Imrohor* for his aſſiſtant, beſides many ordinary grooms, which are to look to them, and ſee that the ‡ *Seiſes* keep them in good caſe. Now the ſaid *Imrohor Baſhaw*, and his deputy, are to ſee the *Grand Seignor*'s ſervants provided of horſes, at ſuch times as they accompany his Majeſty abroad, either ſolemnly at ſhews in the city, or abroad at hunting, or otherwiſe as the King pleaſeth.

* That is, the ſtable wharf; or gate. The King's great ſtable.

† Chief maſter of the horſe: the true word is *Emeer-Ahor*, which ſignifieth Lord of the ſtable.

‡ Horſe keepers.

Beſides this ſtable, he hath divers others in other places, both for his own ſervice, and for the uſe of his gentlemen, at ſuch times as he, or they ſhall come thither: namely,

Other ſtables.

at his gardens and houſes of pleaſure abroad in the country, to which his Majeſty uſeth to go very often; but theſe ſtables have not above eight, or ten horſes a piece in them. For to thoſe houſes he carrieth but few followers with him, and thoſe few are the chiefeſt *Aghas* of all.

Stallion horſes.

He hath alſo ſtables of ſtallions for race in *Burſia*, *Adrianople*, and in divers other places; from which are brought to *Conſtantinople* very ſtately colts; beſides ſuch as are continually ſent him for preſents from *Cairo*, *Damaſcus*, *Bagdat*, and other places by the *Baſhaws*. He hath alſo many which fall to his ſhare by the death of great perſons: all which are horſes of great price, and kept for his own uſe.

But becauſe there muſt be a great number of horſes, for ordinary ſervices of the baſer ſort of ſervants, the King is therefore furniſhed with low prized nags out of *Walachia*.

His nags from *Walachia*.

Beſides the aforeſaid ſtables of horſes, the *Grand Seignor* is provided

vided of five thouſand *Mules*, kept near to * *Stanboll*, which ſerve to carry *Pavillions*, cheſts, water, and all other neceſſaries for travel: but becauſe the *Vizir Azem*, at his going out general, makes uſe of a great part of them, there is ſeldom that number compleat at home. And ſhould the King himſelf go out to the wars in perſon, his very houſhold would uſe a thouſand of them, beſides the riding horſes. For the *Ottoman* Emperors are almoſt as well accommodated in their voyages abroad, as they are at home in the city; and indeed the generality of the *Turks* are ſo well fitted, againſt ſuch times as they are to go forth, eſpecially for long journies, as I think no people in the world can go beyond them.

Mules.

* *Conſtantinople.*

The *Grand Seignor* is bound by *Canon* of the empire, upon the firſt day of the *Byram*, which is their *Carneval*, the *Ramazan* being ended, which is their day-lent, to ſhew himſelf publickly, and to let all the great men, and the better ſort of his own ſervants kiſs his veſt; wherefore

Publick appearing, at the *Byram*.

Three days ſolemnity.

Every night, during the three days of the *Byram* (for it is but for three days, and ſo it ends) he cauſeth

Fire works, and ſhews.

ſhews to be made of fire-works, and ſuch like, by the water-ſide, which continue until morning, and a great drum is beaten all the while; and that the *Sultanas* may ſee them, the King comes of purpoſe into their company to be merry with them, and is more free and familiar than at other times. He alſo gives free liberty for mirth and ſports, both by day, and night, throughout the whole city, during thoſe three days.

There are alſo invited to theſe great feſtivals all the *Sultanas*, which live out of the *Seraglio*, who both

Preſents to the King.

give preſents to the King, and take *Byramlicks*, of him. Moreover in this *Byram*, the *Grand Seignor* is

From the *Baſhaws*.

preſented by the *Baſhaws*, and great perſonages, with gifts of very great price. For every one ſtrives to exceed another, thinking thereby to win favour. The *Sultanas* alſo are

From the *Sultanas*.

not behind hand; for they preſent him with ſhirts, handkerchiefs, linnen breeches, towels, and ſuch like things

things of good worth, being all very curiouſly wrought, the which the *Grand Seignor* afterwards makes uſe of, for his own wearing.

The ſame * *Byram* of three days is kept in all his dominions, and throughout the city of *Conſtantinople*, even in every *Turk's* houſe; the ſtreets being, almoſt at every corner, ſet out and decked with pretty devices, and † *Salunjacks* of divers ſorts, very artificially made, where old and young are ſolaced; and, giving two or three *aſpars* to the keepers of the ſwings, have ſufficient recreation. But during this feaſt, it is ſomewhat troubleſome and dangerous for the poor Chriſtians, and *Jews*, to walk along the ſtreets. For the *Turks* being then ſomewhat inſolent, and full of wine, putting off the ſobriety * of the *Ramazan*, do ſcare them exceedingly; often threatening to miſchief them, if they deny them money, when they in that fury demand it of them. And ſo they do likewiſe at another *Byram*, which is called the *Coochook Byram*,

* Feaſt.

† Swings.

Chriſtians and *Jews* ſcared.

* In which time they drink no ſtrong drink at all.

That is, the little *Byram*.

and comes about three months after the other; in which likewiſe the *Turks* are wonderful merry, both day and night.

CHAP. XI.

Of the Old Seraglio, *and womens lives therein: of their marriages, and children; ſlave-ſelling, and witneſſes.*

Old Seraglio. HAving oftentimes, by the way, made mention of the * *Eskee Saraj*, which is, as it were, a dependant of the King's *Seraglio*, in regard of the uſe of it; it will not be amiſs, briefly to ſpeak ſomewhat touching the ſame.

This is a very large place, immured with a very high wall, ſurpaſſing that of the King's *Seraglio*; the buildings are fair; it hath many inhabitants, all women, and eunuchs,

nuchs, and is about three quarters of a mile in compaſs, being ſeated in the nobleſt part of the city. And this was the firſt *Seraglio*, which *Mahomet* II. built for to dwell in with all his court, when he took *Conſtantinople*. It hath but one gate belonging unto it, and that is of iron; the which gate is kept and guarded by a company of white eunuchs, and no man may come in thereat, unleſs it be to bring in ſuch neceſſaries as they want in the houſe, at which times they cannot ſee any of the women.

Compaſs.

Built by *Mahomet* II.

Iron gate.

Now the women which are therein, are thoſe which are put out of the King's *Seraglio*, *viz.* ſuch *Sultanas* as have belonged to the deceaſed *Grand Seignors*; thoſe women likewiſe, which, through their evil behaviour and conditions, are fallen into diſgrace with the King; and ſuch as are infirm, or defective in what ſhould belong to women fit for the company and bed of a King; and none elſe are there, but for ſome of theſe cauſes. All which are governed and look'd unto by

Who are therein.

by an old woman (called alſo *Kahiya Cadun*) which is made their overſeer, and taketh care to ſee them uſed according to the cuſtom of the houſe, every one in her degree; and that they have their diet, and cloathing, with their ſeveral ſtipends in due time; all which is far ſhort of what they had, when they were in the King's *Seraglio.* Howbeit, ſuch, as have been *Sultanas*, live out of the common rank, in their lodgings a-part; and although they are out of the King's ſight, and, as it were, out of favour, yet they are reaſonably well ſerved.

Woman-overſeer.

The greateſt part of the ſaid *Sultanas*, if they be any thing rich, may, with the *Grand Seignor*'s leave, by the old woman's ſollicitation, go forth from thence, and marry, and carry with them all that, which they have kept, and ſtolen. For if they do not carry the buſineſs cunningly, at their coming forth of the King's *Seraglio*, if they have aught of any great worth or value, that is known, the * *Cadun* takes it from them, and reſtores

They may marry with the King's leave.

* The miſtreſs of the maids.

reſtores it again to the *Grand Seignor*: ſo that, I ſay, if they have any thing to beſtow themſelves withall, they warily make it known abroad, to the end, that ſome men of quality may become ſutors to them, and make them a good jointure.

In the ſaid *Seraglio*, they have all the commodity of neceſſaries, that may be, as gardens, fountains, and fair *Bagnos*. And the King himſelf hath ſome rooms alſo therein ready furniſhed. For ſometimes he goes thither to viſit his female kindred, as his grandmother, ſiſters, aunts, *&c.* who, for ſome of the aforeſaid occaſions, have been put out of his *Seraglio*. Conveniences thereof.

The other women of this *Old Seraglio* have but mean allowance; and, had they not ſomewhat of their own to help ſometimes, they would paſs but coarſly; ſo that they are fain to betake themſelves to their needles, by which they in part ſuſtain themſelves, and reap a reaſonable benefit. And as in the King's *Seraglio*, the *Sultanas* are permitted to employ divers *Jews*-women Hard ſtate. Jews-women.

women about their ordinary occaſions; ſo theſe women likewiſe of this *Seraglio* have other *Jews*-women, who daily frequent their companies, and ſell their labours for them.

Any *Turk*, be he of the clergy, or of the laity, may, if he pleaſe, take ſeven wives at *Kebin*; but few or none will have more than one, or two at the moſt, to ſave charges. Beſides he may keep as many † *Halayks*, as he will; and the children, begotten of them, are held as legitimate, as thoſe of the wives; and have as much right to the inheritance of what the father leaves behind him. But between the children of the great ones there is great difference. For a *Baſhaw* having married a ſiſter, or daughter of the King, and having ſons by them, thoſe ſons may not riſe above the degree of a *Sanjack Begh*, or a *Capoogee Baſhaw*, to the end they may be kept under, being allied to the crown; that ſo, being but in mean places, they may not be apt to rebel. But their brothers, which their father begat

Seven wives.

† Women-ſlaves.

Baſhaws ſons kept under, if of royal blood.

begat of ſlaves, may come to be *Baſhaws*; for they are free from ſuſpicion, in regard they are not of the blood royal. And hence it is, that thoſe children, which had a *Sultana* to their mother, are ſo often ſeen to be in lower degree than the others. For, for the aforeſaid reaſon, he, which is born of the ſlave, is above him which is born of the *Sultana*: yet with the children of the other ſubjects it is otherwiſe; for they all are equals.

Divorces.

The parties married may, upon divers occaſions ſpecified in their law, leave one another; eſpecially when they cannot agree, and live peaceably together. And if the man puts away the woman, then he is bound to allow her the jointure, which he promiſed her, when they were contracted before the *Cadee*, and witneſſes: but if the woman forſake the man, then ſhe can recover nothing, but departs only with a ſmall portion, ſuch as ſhe brought with her into her huſband's houſe. And if they have any children, then he muſt keep the males, and ſhe muſt take the females

females along with her. The ſame order is alſo obſerved, and held with married Chriſtians. For, if the husband turns *Turk*, he may take his ſons with him, and make them of that profeſſion; but his wife will retain the daughters: and, if ſhe turn *Turk*, ſhe doth the like by her daughters, and leaves the ſons to him.

What becomes of the children of the divorced.

Now in caſe a *Turk* take ſlaves for his † uſe, he may not ſell them again; but they become members of his family, in which they are to remain till they die. But if they prove barren, then they may be ſold from hand to hand, as often as it is their fortune.

† To lie withal.

Slaves ſold, if barren.

The *Turks* may buy of all ſorts of ſlaves, of every religion, and nation; and may uſe them as they pleaſe (killing only excepted) which the Chriſtians and *Jews* there may not do; for they have liberty only to buy Chriſtians and *Jews*.

There is for this purpoſe a place in *Conſtantinople*, near the *Beziſten*, where every wedneſday, in the open ſtreet, there are bought and ſold ſlaves of all ſorts, and every one may freely come to buy for their

Slaves bought and ſold in the market.

ſeveral

ſeveral uſes; ſome for nurſes, ſome for ſervants, and ſome for their luſtful appetites. For they, which make uſe of ſlaves for their ſenſuality, cannot be puniſhed by the juſtice, as they ſhould be, if they were taken with free women, and with *Turkiſh* women eſpecially.

Theſe ſlaves are bought and ſold, as beaſts and cattle are, they being viewed, and reviewed, and felt all about their limbs, and bodies, and their mouths look'd into, as if they were ſo many horſes in *Smithfield*. Then they are examined of what country they are, and what they are good for; either for ſewing, ſpinning, weaving, or the like; buying ſometimes the mother with the children, and ſometimes the children without the mother, ſometimes two or three brothers together, and again ſometimes taking the one, and leaving the reſt, uſing no terms of humanity, love, or honeſty, but even as the buyer or the ſeller ſhall think will beſt turn them to profit. Manner of ſelling ſlaves.

Now when there is a virgin that is beautiful and fair, ſhe is held at

a high rate, and is ſold for far more than any other; and, for ſecurity of her virginity, the ſeller is not only bound to the reſtitution of the money, if ſhe prove otherwiſe, to him that bought her, but is for his fraud fined at a great ſum of money. And in this *Beziſten* there ſitteth an *Emeen*, that is, a cuſtomer, who receives cuſtom of the buyers and ſellers of ſlaves, which amounteth to a reaſonable ſum in a year, for the toll is very great.

Reſtitution, if not a virgin.

Emeen.

The *Baſhaws*, and other great ſubjects, though by marriage they become uncles, ſons-in-law, or couſins to the *Grand Seignor*, may not, by virtue of their affinity, challenge any more familiarity or freedom with his Majeſty, than if there were no ſuch matter of kindred between them; but only preſume ſo far as may well befit their place and dignity; they remaining ſtill ſlaves, as the others do: nay, their ſervitude is thereby increaſed, and they loſe a great part of their former liberty. For they muſt be very obſequious to the *Sultanas*, whom they have married, and turn away the greateſt part

No benefit by affinity to the King.

Loſs by it.

part of their other women, and ſlaves, if they have any, and muſt with patience ſupport all their wives imperfections. So that, for this reaſon, few *Baſhaws* of worth, and judgment, ſeek after ſuch marriages; for they are both chargeable, and bring diſcontent. But when the King commands, they, as his ſlaves, muſt ſubmit and obey, though their vexation and charge increaſe never ſo much thereby; and muſt confeſs themſelves to be highly honoured, and obliged unto his Majeſty for ſo great favour.

The ceremonies of *Turkiſh* marrying are nothing elſe, but in the preſence of the *Cadee*, who is the juſtice, to make *Hoget*, that is, a writing expreſſing the vow, and good liking of the parties to be married; with a ſpecification of the jointure, which the husband is to make to the wife. All which is done in the preſence alſo of witneſſes, which are true and honeſt, without exception. For among *Turks* it is not permitted that every one that will ſhould bear witneſs; but

Rites of marriage.

Who may be witneſſes.

but only ſuch men as are free, of a good age, that can ſay the * *Namaz*, and have ſome knowledge in the law, known to be men of civil life and converſation; and, above all, which drink no wine. For the witneſs of a *Turk*, which drinks wine, is nothing worth, (yet they may drink † *Mooſelleſs*, ‡ *Rakee*, and ‖ *Boza*, which are ſtronger than wine) and thus their law commandeth. But for all this, corruption is ſo crept in amongſt them, that now in *Turky*, eſpecially in *Conſtantinople*, there are (to the outward appearance, grave and honeſt men) more falſe witneſſes, than in any other part of the world, beſides: and who are they, at leaſt the chief of them, but a certain company of beggarly *Emeers*? that is, ſuch as pretend to come of the race and ſtock of *Mahomet*, always wearing green turbants, by which they are known and reverenced: but they are generally the moſt ill-favoured men that ever I ſaw. And with them I may fitly join a great number of poor *Cadees*

* Common-prayer.

† New wine boiled.

‡ *Aquavitæ*.

‖ A drink made of ſeed, much like new muſtard; and is very heady.

Emeers falſe witneſſes.

dees and *Naits* out of office, who, as well as the *Emeers*, for money do uſe that deteſtable trade, which our knights of the poſt do practiſe here with us. And hence it is, that † *Avanias* are ſo commonly framed; for they can ſtoutly, and that with eaſe, outface the poor Chriſtians and *Jews*; nay for a bribe they will not ſpare their own ſect, in bearing falſe witneſs, or raiſing an * *Eſtera* againſt them. For theſe *Turks* being naturally given to covetouſneſs (though they pretend to be lovers of honeſty) and altogether inclined to rapine (yet without queſtion, there are ſome honeſt men amongſt them) when they meet with a fit opportunity, they will play faſt and looſe with any man, be he of what condition ſoever, for their own benefit. Wherefore it proves dangerous to have any dealing with them; for that they with that trick will eaſily free themſelves from any obligation, or agreement before made; Judgment there conſiſting chiefly in the proof by witneſſes; ſo that a man

† Falſe accuſations, or pretences.

* *Avania.* *Turks* covetous, and dangerous.

Force of evidence.

had need to be wondrous circumcumſpect and wary, in his proceedings with *Turks*, eſpecially in matters of contract.

CHAP. XII.

Of their religion, opinions, Clergymen, times, places, and rites ſacred; and of the womens ſmall devotion.

Their Religion.
1. He.
2. *Arab.* God.
3. *Turk.* God.
4. Truth.
5. High Truth.
6. High God.
7. Creator of the world.
8. *Perſ.* God.

THE *Turks* believe in Almighty God, and give him familiarly theſe attributes. 1. *Hoo.* 2. *Alloh.* 3. *Tangree.* 4. *Hack.* 5. *Hackteawlaw.* 6. *Allohteawlaw.* 7. *Jehawnee awfereen.* 8. *Hodoy, &c.* And that he is the creator of the whole univerſe, and will be a gracious pardoner of all good men in the day of judgment. That he is in the higheſt Heaven, ſerved with eſpecial angels, having from the beginning caſt out the diſobedient ones, for whom, as alſo for wicked men, he made hell. And as they affirm everlaſting life

to

to be in theſe two places, *viz.* heaven, and hell; ſo they confeſs, and wait for the reſurrection of the body to be reunited with the ſoul, at ſuch time as the fearful trumpet, which they call *Soor*, ſhall be ſounded by *Mahomet*, at the commandment of the great God of the judgment. Reſurrection. The trumpet *Soor*.

They believe alſo, the life everlaſting in *paradiſe* to be ſuch a happineſs, as conſiſts only in delighting and pleaſing of the ſenſes, and that they ſhall have there the uſe of natural things in all perfection, without making any difference; enjoying perfect health, and free from all manner of trouble and vexation. And on the contrary, that in hell the uſe of the foreſaid things ſhall be in unquenchable fire, and ſhall have a moſt bitter and loathſome taſte, and they which come there ſhall continually be tormented with innumerable vexations, and fearful ſights: and this is all that they conceive of heaven, or hell; either for the reward of the righteous, or the puniſhment of the reprobate. Senſual paradiſe. Hell.

They ſay moreover, that the power of God is ſuch, that having at the creation of man prefixed, and appointed a ſet time for his end, it is impoſſible that the wit or device of mortal man ſhould be able to divert, or prevent it; wherefore in the wars, and in all other occaſions, they are ſo much the more bold, reſolute, and courageous; being perſuaded that their end is written in their foreheads, and that it is not for them to go about to avoid it, ſo that if they die, *Emmer Allohung*, it was Gods will it ſhould be ſo. Now this their opinion makes them to laugh at and ſcorn the *Greeks*, who burn waken candles at holy wells, hang rags upon trees, which they rend from the clothing of the ſick, and uſe divers other charms for to drive away diſeaſes.

Fate.

The commandment of God.

Charms uſed by the *Greeks*.

They alſo affirm God's power to be ſuch, that, after mens bodies are riſen again, he will give them ſuch an agility, that they ſhall be able in a moment to paſs from one heaven to another, even to the fartheſt parts of them; to viſit and embrace

Agility in the next life.

embrace their wives, mothers, brothers, and others of their kindred; the heavens being all transparent; of diamonds, rubies, and chriſtall. Tranſparent Heavens.

As concerning Gods throne, or ſeat of Majeſty; they affirm, that every one cannot behold it, by reaſon of the brightneſs of the beams, which come from his eyes; and by reaſon of the unſpeakable ſplendor proceeding from his glorious face; ſo that the angels, and prophets only have the grace to enjoy that ſight. God's throne.

And of the angels they report thus, that they are continually ſerving, and praiſing God, and ready to obey his will. The angels.

But I have read in a book which they call *Abvawlee keeyawmet*, that is, the ſtate of the day of judgment; written by a famous *Sheyk* amongſt them, a moſt ridiculous diſcourſe of the angel *Gabriel*. For he writes, that *Gabriel* hath a thouſand ſix hundred wings, and that he is hairy from head to foot, of a ſaffron colour, having in his forehead a ſun, and upon every hair a ſtar; and that he dives three hundred and Angel *Gabriel*.

* A ſea in paradiſe.

ſixty times a day into * *Noor-dengiz*, and ever as he riſeth out of the water he ſhakes himſelf, and of every drop that falls from him there is an angel made, after the likeneſs of *Gabriel* himſelf; who until the end of the world do pray unto God, and praiſe him, upon their beds; and theſe young angels are called *Roohawneyoon.* Many ſuch diſcourſes there are in that book: but becauſe they are vain, I leave them to the *Turks* that believe them, eſpecially the common ſort, who think that whatſoever is written in their tongue muſt of neceſſity be true, and that they are bound to believe it.

A tree in paradiſe.

They hold that in *paradiſe* there is a tree, which they call *Toobaw*, upon whoſe leaves are written the names of every living man; ſo when God's will is that ſuch, or ſuch a one ſhould die, God ſhakes off his leaf into * *Iſrael*'s lap, who looks upon it, and reads it, and having ſeen what God's pleaſure is, he, after the party hath been dead forty days, ſends an angel to carry his ſoul, according as the leaf ſhall direct him, either

* This *Iſrael* they ſay is an angel.

either into heaven, or hell; for upon his leaf, not only his hour of death is written, but alſo what ſhall become of him after he is dead.

They ſay, that almighty God ſent four *Pegambers*, that is, prophets, into the world, to inſtruct, govern, and ſave mankind, each of them being holy, pure, and undefiled, *viz.* 1. *Mooſaw*: 2. *Dawood*: 3. *Iſaw*: and 4. *Muhammed*: and that God ſent to every one of them, by his angel *Gabriel*, a book, that they themſelves, being firſt perfected, might the better know how to inſtruct the people. To *Moſes* he ſent the *Tevrat*, that is, the old law; to *David* the *Zebur*, that is, the pſalms; to *Jeſus* the *Injeel*, that is, the goſpel; and to *Mahomet* the *Kuraan*, that is, the *Alcoran*. And that the three firſt prophets with their people did fail ſomewhat in the laws given them by God: but *Mahomet* coming laſt, brought a law, more true, plain, clear, and ſincere, in which all ſuch as believe ſhould obtain the love of God. But they ſay that all other nations continue ſtill in their errors, and

Four prophets, and four books.

1. Moſes.
2. David.
3. Jeſus.
4. Mahomet.

Old law.

The pſalms.

The goſpel.

The Alcoran.

and, having ſucked of their mothers milk, do not embrace the truth. For which obſtinacy and blindneſs, being, by right, deprived of all hope of coming to heaven; they have no other means to recover the ſame, and to come thither at the day of judgment, but by *Mahomet*'s protection, who is the only interceſſor and mediator unto almighty God; and ſtanding in the dreadful day of judgement at the gate of *paradiſe*, he ſhall be ſought unto, and intreated by the other three prophets to ſave their people alſo; and his goodneſs; and clemency ſhall be ſuch, as to make interceſſion for them; ſo that the good Chriſtians, and the good *Jews* ſhall by his means obtain everlaſting life, with perpetual fruition of ſenſual delights, as aforeſaid; but in a place a-part, and inferior to the *Turks*, they being beloved of God, and more dear unto him than others.

Womens heaven. The women alſo ſhall come into heaven, but ſhall be in a place far inferior to men, and be leſs glorified.

All the prophets are held in great honour amongſt them, and they

they never name any prophet but they ſay *Aleyhoo ſelawm*, that is, health or ſalvation be upon him.

They call Moſes, *Muſahib Alloh* that is, a *Talker with God*; and David *Hazrette Dawood*, that is, *venerable David*; and Jeſus *Meſeeh, Roohullah*, and *Hazrettee Iſaw*, that is, *Meſſias, the Spirit of God*, and *venerable Jeſus*; and *Mahomet, Reſul Allo*, that is, the *Meſſenger of God*.

When they talk of Chriſt Jeſus, they ſpeak very reverently of him, and confeſs that the *Jews* through envy apprehended him, and falſly, and maliciouſly condemned him, and led him along to put him to death: but the angels, being ſent from God, took him away from them in a cloud, and carried him up into heaven; at which the *Jews* being aſtoniſhed, and extreamly vexed, took one that was there preſent, and crucified him in his ſtead; being unwilling to have it known that Jeſus was the Meſſias, he being in heaven in company of his brethren the prophets, beloved of God,

Their opinion of Chriſt.

God, and ſerving him, as the other prophets do.

Theſe are the main and principal foundations of their religion, upon which they build and frame the courſe of this their preſent temporal life; and by which they hope to obtain a life everlaſting and happy; affirmed by their prophet to be full of the delights and pleaſures of this world, but enjoyed in all perfection and excellency, in a ſupernatural and incorruptable manner.

The miniſtry of their religion, or rather their confuſed ſect, is as followeth.

* *Muftee.* This word comes from *Fetcha* which ſignifieth to open in the *Arab.* tongue.

Firſt, they have a * *Muftee*, that is to ſay, an expounder, or declarer of law caſes; who is alſo amongſt them as an archbiſhop is with us, for he is the *Primate* over the church, and muſt be a man very expert in the law, and accuſtomed to do juſtice, choſen by the *Grand Seignor* himſelf: the which *Muftee*'s charge is, to overſee and hear all ſuch matters of weight, as are belonging to the law, or to the church, in caſe his inferiors,

The *Muftee*'s charge.

feriors, as ‡ *Moolaes*, *Cadees*, &c. ‡ *Cadees* of the higheſt rank, the word ſignifieth lords. ſhould fail in the due performance of what belongs to their ſeveral places. And to this end, every Tueſday he muſt aſſemble all the chiefeſt of them which are in town, or at leaſt the greateſt part of them, to his own houſe; where he diſputeth with them for the ſpace of three or four hours, putting divers caſes to them, and taking their anſwers from them in writing: but by this means he oftentimes entraps many of the *Cadees* which are in office, eſpecially ſuch as are given to bribery. For when any plantiff or defendant is aſſured, that the *Cadee*, which had the cauſe before him, hath wronged any of them; then the party offended makes his grievance known to the *Muftee*, who againſt the next Tueſday frames a caſe, as like unto it as poſſibly he can, but of another ſubject, and in other mens names; ſo when they are come together he wittily puts forth that amongſt the reſt, and that being reſolved with the reſt, he looks upon it; then he calls

His diſputation on the Tueſday.

The uſe.

that

that *Cadee*, which committed the fault, and privately rebukes him for it.

The like courſe is taken by many, which come to the *Muftee* himſelf to be reſolved in ſome point of law; leſt that the *Muftee* ſhould know either party by naming them, and ſo lean to what ſide he pleaſeth: but after this manner he cannot eaſily deceive them.

The *Muftee*'s chief imployment is, to anſwer all ſuch propoſitions as are made unto him; upon caſes of conſcience, and the rites of the *Turkiſh* law. The which anſwers are in few words, very brief, and they are called * *Fetfaes*, that is, declarations or judgments of the *Muftee*; with which he may compel, not only the *Cadees* and *Baſhaws* to the performance of the contents thereof; but the King's own perſon is alſo bound to ſee them executed, and to ſtand to his decree. For they ſeek altogether to amplify this ſect of lawyers, in honour of their prophet the law-maker; and the *Muftee*'s authority is ſo much the more regarded, for that

* It is derived from *Muftee*.

His power.

that he is upheld very ſtoutly by the whole order of the *Cadees*.

The *Muftee* hath his revenue apart in land of about ſix thouſand *Sultanas* a year; but being put out of his place, leaving the revenue to his ſucceſſor, he hath then but a thouſand aſpars a day, as the *Cadeeleſchers* have when they are in office: howbeit their uncertainties amount always to a far greater matter. His revenue.

And although this *Muftee* hath not an abſolute rule and command over the *Muftees* of other parts of the King's dominions; yet by his policy he ever prevails with the *Grand Seignor*, and effecteth whatſoever he undertakes, eſpecially when he hath the *Vizir Azem* to his friend, who in degree, dignity, and authority is his ſuperior.

Next to the *Muftee*, there are two *Cadeeleſchers*, that is to ſay, *Judges* of the armies, one of *Græcia*, and the other of *Natolia*; who alſo being men of the law, and they which always ſucceed the *Muftee*, have the overſight of all the *Cadeeleſchers*.

the other *Cadees*, and the placing or the diſplacing of them is in their power; which *Cadees* are juſtices, and there is one in every city and town, to do juſtice, and end controverſies between man and man, and to puniſh offenders; but they are changed every three years, and others put into their places, by the *Cadeeleſchers*, with order from the *Grand Seignor*: which ſelling of * *Cadeelicks* is an unſpeakable benefit to the ſaid two *Cadeeleſchers*.

* *Cadees* places.

Cadees, and their orders.

Amongſt theſe *Cadees*, they have alſo their orders, *viz.* thoſe of the firſt rank, and they are called † *Moolaes*, which are always imployed in the chiefeſt cities; the other are but *Cadees*, and they get employment as they can, by their good and upright carriage in their places; a third ſort there is alſo of this kind, which are called *Naibs*, and they ſerve in ſmall towns and villages, as deputies to the former, but in time come to be as high as they. Now the *Cadeeleſchers* keep each of them a book, wherein are exactly ſet down the revenues of every particular * *Cadeelick* both in

† Lords.

Naibs.

Books.

* *Cadees* place

in *Grecia*, and in *Natolia*; ſo that, by their books they know the better how to furniſh any place that is void, and at what rates to ſell them; none of them being worth, or yielding above five hundred aſpars the day, gratuities and bribes excepted.

This order of *Turks* only, amongſt the reſt, hath this large privilege, which is, that they may not be put to death as other *Turks* are; ſo that, if any of them by committing ſome notorious villainy, or offence againſt the law, ſhould deſerve death, it muſt then be done by an expreſs and abſolute command from the *Grand Seignor*, and that very warily and ſecretly; but this happeneth very ſeldom, or never. Privilege.

The *Muftee* and other *Cadeleſchers* are changed at the King's pleaſure, for there is no office among the *Turks* during life: howbeit their ordinary continuance is three years; their chief fortune depending wholly in the obtaining the grace and favour of the chief *Vizir*. Their continuance. No office during life.

Great Turbants.

All the aforeſaid men of the law, *viz.* the *Muftee*, the *Cadeeleſchers*, *Moolaes* and *Cadees*, wear their *Turbants* far bigger than any other *Turks*, and made up after another faſhion, in token that they ought to be reverenced above others; and although their habit be in faſhion very like other mens, yet in this there is great difference, which is, that their wearing is commonly chamblet, and the fineſt cloth, but no ſilk, or cloth of gold at all.

Their habit.

Moteevelee.

Then, next to theſe orders, they have a governor of the *Moſcheas*, called the * *Moteevelee*; whoſe chief imployment is to look after the revenues of the church, and after the repairing of the great *Moſcheas*: then *Sheibs* which are high prieſts, and *Eemawms*, which are pariſh prieſts; and next to them, *Muyezins*, which are as our church-clerks; all which are imployed in the ſervice of the church, both in praying, preaching, calling the people to prayer, burying the dead, reading upon the graves of the dead, and to conclude all ſuch offices

* This word is derived from *Ewel*, which ſignifieth firſt.

Sheibs. Prieſts, and clerks.

Their imployment.

offices as are any way belonging to the church, for the edifying of the people.

And in every † *jawm* there are * *Mudeereeſes* which are readers, that teach ſcholars the common prayers, and inſtruct them in the ſervice, and duties, belonging to the church, being paid for their pains out of the revenues of the *Moſcheas.*

Readers.

† Cathedral church.

* This word is derived from *Ders*, which ſignifieth a leſſon.

They pray five times a day ordinarily (as well in the *Moſcheas*, as in their private houſes, or whereſoever they are) *viz.* about four of the clock in the morning, which they call *Sabawh Namaz*, or *Temcheet Namaz*: at noon, and that they call *Oileh Namaz*: between three and four o' clock after noon, which they call *Ekinde Namaz*: between ſeven and eight at night, and that they call *Ackſham Namaz*: and at midnight, which they call *Ghejeh Namaz*; and upon the Friday (which is their ſabbath) ſix times: for they pray then at nine of the clock in the forenoon alſo, and that is called *Selaw*. Now upon that day there are more ‡ *Muye-*

Prayers five times a day.

Upon Friday ſix times.

‡ Clerks.

Manner of calling to prayer.

zins which cry in the *Meenarés*, or ſteeples, than upon other days; for at all thoſe hours inſtead of bells, the people are called to prayer by the voice of one or two of them ſtanding in the ſteeples, or turrets, which are of a reaſonable height, and join to the *Moſcheas*; by whoſe voices, and repetition of the † *Aazawn*, they are ſtirred up to the praiſe of God, and *Mahomet*, and ſo they prepare themſelves for prayer.

† The words which the *Muyezin* uſeth to ſay in the ſteeple.

Cleanneſs and purifying.

The condition of them which are to pray, is only to be corporally clean; it being altogether unlawful for any *Turk* to enter into the *Moſcheas*, with an intent to pray, if he find that he hath any natural pollution, or carnal uncleanneſs about him, be it of what condition ſoever, or of never ſo ſmall moment. Wherefore, for their cleanſing, every one is bound either to waſh himſelf in the *Bagno*, if it be for carnal commerce, until which time he remains * *jenoob*, or for other ſorts of uncleanneſs, or ſmall offences, with cold water; every place and city abounding with *Bagnoes*,

* Unclean.

Bagnoes, both publick and private; and every church-yard with very fair fountains for the uſe of the common ſort of people; ſo that every one muſt do his * *Awb deſt* before he pray.

Now, immediately after every one is cleanſed, and come into the church, the † *Eemawm* begins with a loud voice to pray, ſitting before all the company with his face towards the * ſouth eaſt; and the people, being placed in orderly ranks with their faces the ſame way, do altogether imitate him in geſture. For of themſelves a great part of them would not elſe know how to perform that buſineſs, ſcarcely one in twenty underſtanding what the *Eemawm* ſays. For they pray in an unknown tongue as well as the Papiſts do: and their prayers conſiſt chiefly in riſing up, falling down, kiſſing the ground, and ſometimes ſitting ſtill; one while touching their eyes, ſometimes their faces, then ſtroking their beards, and anon their heads; again ſometimes looking over the left ſhoulder, and ſometimes over the right; ſaying

* Their waſhing before they pray is ſo called. *Awb* in Perſian ſignifieth water, and *Deſt* the hand.

† Prieſt.

The manner of their prayers.

* Becauſe *Mecca* is ſouth eaſt of *Conſtantinople*: in other places it may be different. Their rule in praying, whereſoever they are, is to direct their faces to the city *Mecca*; and this is called by them *Kibla*.

Prayers in an unknown tongue.

Their geſtures.

ſome few words in the praiſe of God, and *Mahomet*: the churches being all matted underfoot, and in ſome places there are carpets ſpread for the better ſort of people.

Their length. The ſaid prayers, according to the hours of prayer, are divers, ſome longer, and ſome ſhorter; none of them being above an hour long, only the prayer in the evening of the *Ramazan*, which is longer than the other prayers.

They pray, as I ſaid, after the *Eemawm*, who is their guide, and is much eſteemed of, if he have a good voice, as we eſteem of our ſinging men.

Preaching. They alſo uſe preaching upon every † *Jumaa ghun* in the *Ramazan*: and when they will pray for any good ſucceſs in their wars, or curſe any † *Jelawlee*, they then have a cuſtom to go a proceſſion along the ſtreets by two and two, but without any lights, or any ſuch things in their hands; and as they go along, they praiſe the name of God, and read very long prayers, which they have for thoſe purpoſes, the people ſtill crying Amen at the end

* Friday: it ſignifieth a day of aſſembling.

† Rebel.

Proceſſion, and curſing.

end of every prayer; and then they hold that rebel, or enemy, whosoever he be, to be without all doubt accurſed, and themſelves proſperous in their enterprizes.

In the times of trouble and affliction, they publiſh in the moſt eminent places a convocation of all the chief men, and eccleſiaſtical perſons in the city; and of the common people alſo ſuch as will come may, to pray in the fields which are for that uſe, therein imitating the *Jews*; and being all come together, divers of their * *Santons* (eſteemed for their ſhew of holineſs) make ſermons of exhortation to fortitude, patience, and to the love and fear of God. But if thoſe troubles continue ſtill, they then uſe the prayers of forty hours, and of forty days, for they are ſo call'd, in the chiefeſt *Moſcheas* built by the Emperors; which prayers are ſaid by a company of churchmen, who are belonging to the ſaid *Moſcheas*; and if all fail, then they all fall to ſacrificing, for that is held to be of greateſt force

Other convocations and prayers.

* Holy men.

Sermons.

Sacrificing.

to put away evil, and the beſt thankſgiving for benefits received.

Ramazan ceremonies.

All the ceremonies, which they uſe in the *Ramazan*, are no other, but to abſtain from eating and drinking in the day time. For they have leave to eat all the night long, if they will (that is, from the *Ackſham Namaz*, which is about ſeven or eight o' clock at night, until the *Sabaw-namaz*, which is about four o' clock in the morning) and what they pleaſe, without any difference of meats. And at twilight they light lamps round about the ſteeples, which burn till morning;

Lamps.

Prieſt.

the *Eemaum* of every pariſh taking ſpecial notice who is often wanting from church, eſpecially in the evening, and who drinks wine, or eats in the day time. For beſides that they ſhould be held deſpiſers of the law, they ſhould be moſt ſeverely puniſhed, if they were found in any ſuch fault.

Example of ſeverity.

I remember, that *Naſooh Baſhaw* being *Vizir Azem*, and riding through the ſtreets in the *Ramazan*, eſpied a *Turk* that was drunk with wine; ſo, forthwith he cauſed him

him to be brought unto him, and without giving him any reſpite, for the recovery of his loſt wits, cauſed a ladleful of boiling lead to be poured down his throat, wherewith the wretch periſhed immediately.

The *Grand Seignor* uſeth in the *Ramazan*, as well as in the times of troubles and afflictions, and ſo do the *Baſhaws* and other great men, to ſacrifice divers ſorts of beaſts, both at the ſepulchres of ſuch as have been held for holy, and valiant men, and at the *Moſcheas* too. Now ſome do it privately; but the Kings have ſtill commanded, that their ſacrifices be done publickly, and in the open ſtreets, and at the gates of the city, dividing the fleſh of the beaſts among the people: yet ſome part of it is ſent to the *Baſhaws* themſelves, and to the other grandees of the *Port*. Theſe ſacrifices are uſed very often; for by that means they think to appeaſe Gods wrath, and regain his love and favour. Sacrifices.

Thoſe *Turks* which ſeem to be profeſſors of religion and devotion, and

* Puritans.

and would be accounted * *Sofees*, do commonly read, as they walk along the ſtreets, and have their beads longer then other men, carrying them in their hands into the *Moſcheas*, and are ever buſy with them as they walk up and down the ſtreets, that the world may take notice of their feigned zeal: but they paſs, or rather poſte them over very quickly; for whereas the Papiſts ſay the *Pater noſter*, or an *Ave Maria*; they ſay only two words; as for example, 1. *Subhaun Allah*, or 2. *Iſtighfir Allah*, and ſometimes 3. *Allobo ekber*.

Beads.

1. God is pure.
2 God defend.
3 God is great.

Many of them go to *Mecca*, and to *Jeruſalem* on pilgrimage. To *Mecca* to viſit the temple which they ſay was built by *Abraham*, in which *Mahomet* in the time of idolatry did hide himſelf; of whom they affirm, that, when he was almoſt forty years of age, he received the Alcoran from God by the hand of the angel *Gabriel*, and that from that time the *Muſſulmanlick* began, that is, the true belief; and ſhortly after he died, and his ſepulchre is viſited by all ſuch,

Pilgrimage.
Mecca temple.

as

as go to the ſaid pilgrimage. And when they go to *Jeruſalem*, they go not to viſit Chriſt's ſepulchre; for they ſay, he did not die: but they go to ſee the places, which he moſt frequented, as being a miraculous prophet, who raiſed the dead to life, healed the ſick, gave ſight to the blind, and wrought many ſuch wonders, which never any prophet could do but he. They go likewiſe to the valley of *Jehoſhaphat*; for they ſay, that in that place ſhall be the reſurrection at the day of judgment. Now all ſuch as have gone the ſaid pilgrimage, and return home again to their houſes, are ever after called *Hagees*, that is, pilgrims, and are very much reverenced and eſteemed of all men. There are alſo divers *Turks*, who, forſaking the world, leave all that they have, and go to live near to the foreſaid valley, for devotion; and to be nearer to the place of reſurrection, ſuppoſing thereby to get a great advantage to themſelves, above the reſt at that day.

Jeruſalem.

Valley of *Jehoſhaphat*.

Pilgrims.

Many

Many there be likewiſe, which profeſs a kind of living, out of the common courſe and cuſtom of the world, being clothed wonderful poorly and raggedly, with white felt caps on their heads, that beg for their living, and lie in the courts of the *Moſcheas*, and in ſuch like places; and theſe are accounted very holy men; for they pray much in the view of the world, and live always, in outward appearance, in the love of honeſty; preaching this doctrine to the ſtanders by, that it is impoſſible perfectly to arrive unto, and gain the love of God, but by the ladder of human love, and innocency; and for this cauſe they betake themſelves to that courſe of life, that they may be in charity with all the world, and be accepted of God, and rewarded for it in heaven; under which colour of holineſs they live at eaſe, and deceive the world, every one being bountiful unto them. For the poor, ſimple, and ignorant people do daily throng about them, receiving their benedictions, for which they give them money.

money. They go many times up and down the city, from house to house, singing certain prayers for the prosperity of the family; and seldom, or never, go away empty.

Besides them, there are also some, who, like hermits, live in rocks, and on the sides of mountains, and in other solitary places, neglecting the world, conceiving that course of life to excel all other for innocency and holiness; to whom also many men and women do resort, and give money for their prayers and benedictions.

The greatest ceremony, for pomp and solemnity, which is used amongst the *Turks*, is that of circumcising their children, wherein they greatly differ from the *Jews* in this one particular. For the *Turks* never circumcise them, till they be past ten years of age; following the example of *Ishmael*, whom they imitate; alledging that *Abraham* loved him, and not *Isaac*, and that it was *Ishmael* whom *Abraham* would have sacrificed. Circumcision.

Until the very day of circumcision, they let a lock of hair grow on the The lock of hair.

the crown of the head, as long as may be, but afterwards they cut it ſhorter: and the reaſon why they muſt let it grow is, only to ſhew that they are not as yet circumciſed; until which time they are not accounted perfect † *Muſſulmen*, nor may till then pray in the congregation. They wear the lock broided, and plaited, and hanging down the middle of their back, over their uppermoſt coat, that every one may ſee it. This circumciſion is done without the church, becauſe of the ſhedding of blood; all the kindred and friends being invited unto it, in token of joy and gladneſs. They uſe the like ceremony with thoſe, which turn from any other religion, and become *Turks*; who, in token that they embrace the religion of *Mahomet*, do, before they are circumciſed, hold up their forefinger, and ſay theſe words, *Law illawho illaw Allha ve Muhammed reſul Allah*, that is, There is no God, but God alone, and *Mahomet* is the meſſenger of God.

† True believers.

There are in the cities, and by the highways alſo, in moſt places of the *Grand Seignor*'s dominions, for the

the benefit both of the inhabitants and travellers, divers * *Hawns*, commonly called *Canes*, in which wayfaring men do lodge, and refresh themselves and their horses. There are also hospitals in cities, and colleges for the bringing up of youth, where they may learn to read and write; every *Moschea* built by the Emperors, and all other great *Moscheas* having large revenues, out of which, by the will of the founders, the said colleges and hospitals are maintained. For the Emperors, by canon, should not build any churches, but in memory of some notable conquest, or memorable enterprise, by which the church may be provided for: nor *Sultanas* neither may build, unless it be the Queen-mother to that Emperor who reigns at that time when she goes about it. For the building of which they are at infinite charge, dedicating them with great solemnities for the said victory, be it what it will be. When an Emperor builds a *Moschea*, and that it is almost finished, and the main *Cubilo* or round roof is to be laid on; to cap or crown as it were

* Canes.

Hospitals and Colleges.

Limited.

A ceremony at the finishing a *Moschea*.

the

the whole fabrick, then are invited all the *Bashaws*, and other great men, to come to the solemnity, but every one of them doth send, the day before, his present of vests of of cloth of gold, velvet, sattin, &c. all which being that day hanged upon cords, on the outside of the top of the church, the *Grand Seignor* himself comes thither, and, being set under his pavillion in the church-yard, all the chiefest of them, to whom he also giveth vests, kiss his hand one after another. This being ended, the *Mustee* makes a prayer, and then the *Cubila* is put on, and this is their consecration; the said vests, which were hanged up, being afterwards shared amongst the master workmen.

The same ceremony is also used among the *Turks* in building of their houses, at the closing up the roof. For they invite their friends, who either send them vests, or handkerchiefs, and hang them up after the said manner, which also fall to the workmens share; the guests are feasted for their pains, and that is the

warming

warming of the houſe, as we call it in England.

In theſe *Moſcheas* there are ſome very coſtly pieces of work, and exceeding well ſet forth and proportioned; as well for the largeneſs and neatneſs of thoſe places where the people pray; as alſo for the beautiful porches, galleries, and large paved courts, which compaſs the ſaid *Moſcheas*; adorned with very ſtately pillars, and fountains built all of curious marble, beſides their colleges and hoſpitals near unto them; to which, as I ſaid, belong very large revenues, inſomuch that ſome of thoſe *Moſcheas* may be compared with the richeſt churches in the world. They are built all of wonderful fair ſtone, with their *Cubiloes* covered all over with lead; the pillars within the churches being either of *Porphiry* or ſome ſuch coſtly ſtones, and the baſis thereof all whited. Now the pillars in time of prayer ſhine moſt gloriouſly, by reaſon of the abundance of lamps that are burning: the which lamps are curiouſly faſtened into round iron hoops, in compaſs as big as the hoop of a butt; upon which there are divers rounds of

Moſcheas.

Magnificence.

Lamps.

lamps one above another, and are let down by copper chains from the roof of the church: in every *Moſchea* there are three or four ſuch circles of lamps, or more, according to the bigneſs of the church.

There are no benches in the *Moſcheas*, nor any thing to ſit upon; only a little place raiſed from the ground for the prieſt, and another right over againſt it, but ſomewhat lower, for the *Grand Seignor*, at ſuch times as he comes to prayer; all the reſt ſitting upon the ground, as ordinarily they uſe to ſit in other places: wherefore the pavements, although they are of very bright and clean ſtone, are covered with very fine mats of *Cairo*, which are kept wondrous neatly. For beſides the *Grand Seignor* no man may come into the church with his ſhoes on; but muſt leave them at the door, or elſe give them to their ſervants to keep.

No ſeats.

Mats.

When any one is dangerouſly ſick, and in their judgments paſt hope of recovery; then they ſend for the * *Imawm*, who comes, and uſeth comfortable ſpeeches unto him, and prayeth by him; and, the party dying, they

Sickneſs.

* Prieſt.

they waſh him all over with water; then having wound him up in his *Kefen*, or winding-ſheet, and laid him in a coffin with his face downward, they carry him to his grave with his head foremoſt. Now if the party that is dead be a man, or a man-child, then they ſet a turbant upon the coffin; and if it be a woman or a girl, then they ſet a *Filjan Takya* upon the coffin, for diſtinction ſake; that is, ſuch a cap as the women wear, with a brooche and feather in it. Again, if the party be a virgin, they oftentimes, provided they be people of quality, ſet garlands and boughs of oranges upon the coffin. They are accompanied to the grave by the churchmen, and their own kindred, and many ſtrangers alſo, which paſs by, willingly go along with them, (for they hold it a very meritorious work to ſee the dead well buried) but no women at all; (yet women may afterwards both weep and pray upon their graves) nor do they carry any lights in their hands, or cenſors, or howl and cry after them as the *Greeks* do; but the † *Muyezins* ſing all along as they go, calling upon the name of

Manner of burying.

Garlands and boughs of oranges.

Women go not to burials.

No lights.

† Clerks.

God, and their prophet *Mahomet*, and praying for the health of the ſoul departed: and at their return there is ſome kind of coarſe banquet made for the company for their pains.

Tombs of the Emperors.

The tombs of the Emperors moſt commonly are built upon the ground, cloſe by their graves, and on each grave there ſtands an empty coffin, covered either with extraordinary fine cloth, or elſe with velvet; having turbants ſet upon them of the faſhion of thoſe which the Emperors themſelves did wear, with brooches and ſprigs of feathers in them: and there ſtand great candleſticks both at the head, and at the feet of the ſaid graves, and two lamps burning continually day, and night. Now theſe tombs are for the moſt part built in little chappels cloſe by, but not adjoining to the *Moſcheas* of the ſaid Emperors. There is no great ſtore of workmanſhip about any of their tombs. For they are of the faſhion of a cheſt, about ſeven foot long and about two foot and half broad; but either ſide is cut out with flowers, gilded over, and

at

at each end an *epitaph*. Now in theſe chappels there are *Muyezins*, and *Derveeſhes*, who by turns continually read in the Alcoran, and pray with their beads, for the glory of the Emperors deceaſed. The *Vizirs*, *Baſhaws*, and other great men alſo, imitating the Emperors, do the like, but with leſs pomp, and charge: and they which have no burying places, near the *Moſcheas*, may make them near their dwelling houſes, and be buried there, or if they pleaſe in any other part of the city, provided that the ground whereon they build their tombs be their own. The common ſort are carried out of the city, and buried in the fields, which ſerve only for that purpoſe; having one ſtone ſet upright at the one end of their grave, and another at the other end, for a token that one hath been buried there: (for by the law, howſoever it is not ſtrictly obſerved, they ought not to bury where one hath been buried before) upon which is graven the name, degree, and country, or any thing elſe that they pleaſe of the parties deceaſed. Beſides, if it be the

Common tombs.

the tomb of a man of quality, they uſually ſet a turbant cut out in marble upon the head of it; or if a woman, then a cap of marble, ſuch as the women wear.

Among the *Turks* there are no religious houſes, or monaſteries, unleſs the * *Teckebs* of the *Mouleveen*, which are an order of ‡ *Derveeſhes*, that turn round with muſick in their divine ſervice. The *Turks* generally are bred up to arms, and very few can write, or read. Nay, it hath been ſometimes ſeen that a *Baſhaw Vizir* of the *Port*, which had not his education in the King's *Seraglio*, hath ſat to do juſtice in the *Divan*, and hath not known either to write, or read, but hath been enforced of neceſſity to learn to write a few words of courſe, for the ſigning of commandments, bills, warrants, and the like. And among the *Turks*, he that can but read, and write, is held a very learned man, and eſteemed far above others, by the common ignorant people; inſomuch that when a crafty fellow hath got a book, which he knows will pleaſe their humours (they altogether delighting in

* Colleges.

‡ Holy men, profeſſing innocency.

in books like *Palmerin d'Oliva*, the knight of the ſun, *Amadis de Gaule*, and the like) he forthwith gets him with his book to ſome † *Cahve* houſe, or other, where there is always great reſort, and there, being ſet down in the middle of them, he falls to reading, the people evermore giving credit to whatſoever he ſays; and ſo having ſpent an hour, or two, he takes their benevolences, which is uſually more than the price of his book comes to; ſuch is their ſimplicity, and ſuch is their delight in hearing a man read fables.

† Houſes where they drink *Cahve*.

As for the women, there is no heed taken, or reckoning made of their religion at all; therefore I ſpeak of it laſt, but for modeſty ſake, I muſt conceal what the *Turks* are not aſhamed ſometimes to judge of them. For they never go to church, ſo that if they happily have a will to pray at the hours of prayer, they do it in their own houſes, uſing the ſame preparations as the men do. Nevertheleſs their honeſty, and good carriage is much looked after; the * *Imawms* of every pariſh being bound

Womens religion.

Women go not to church.

* Prieſts.

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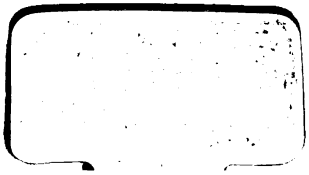
bound to hearken diligently after their deportment; who, if they discover any thing that is amiss, must reveal it to their husbands, that they may put them away if they will; or else to their fathers, or kindred, if they be unmarried, that they may take some course for to reform them.

And although the women may not be conversant with any other men, than with their husbands, fathers, or brothers; and although they live in lodgings a-part, by themselves, out of the sight of men, and go always abroad with their faces covered; yet many of them, being extraordinarily wanton, are very dishoneſt and lascivious, who taking the opportunity of their husbands absence, at the wars, or in some long journey, under colour of going to the *Bagnos*, and being covered withall, go whither, and to whom they lust, knowing that the worst of it is to be put away, if so be it should at any time be discovered.

FINIS.

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